# **Coastal Wetlands Planning Protection & Restoration Act**

29th Priority Project List



Region 2 Regional Planning Team Meeting

February 14, 2019 Lacombe, LA

#### **CWPPRA**

1. Welcome and Introductions



• RPT Region 2 Leader: Sarah Bradley- USACE

#### Announcements

- Copies of the PPL 29 Selection Process & Schedule available at the sign-in table.
- PPL 29 RPT meetings to accept project nominees:
  - Region IV, Port of Lake Charles, Feb. 12, 2019, 10:00 am
  - Region III, Port of Morgan City Office, Feb. 13, 2019, 9:30
  - Region II, USFWS SE LA Refuges Complex (Big Branch), Feb. 14, 2019, 10:00 am
  - Region I, USFWS SE LA Refuges Complex, Feb.14, 2019, immediately following Region II
- For parishes that do not have a voting registration form filled out already - Parish representatives must identify themselves during the RPT meetings and fill out a voting registration form, including contact information for the primary and secondary voting representatives that will cast votes during the Coastwide Electronic Vote.

#### **CWPPRA**

## Region 2 Parishes

- Eligible parishes for basins in Region 2 include:
- Barataria Basin
  - Plaquemines Parish
  - Jefferson Parish
  - Orleans Parish
  - Ascension Parish
  - Assumption Parish
  - St. James Parish
  - St. Charles Parish
  - Lafourche Parish
  - St. John the Baptist Parish
- Breton Sound Basin
  - Plaguemines Parish
  - St. Bernard Parish



## **RPT Meetings**

- Project proposals should be consistent with the 2017 State Master Plan.
- A project can only be nominated in one basin except for coastwide projects
- Proposals that cross multiple basins, excluding coastwide projects, shall be nominated in one basin only, based on the majority area of project influence.
- If similar projects are proposed within the same area:
  - RPT representatives (CWPPRA agencies and only the parishes located within the project's basin) will determine if those projects are sufficiently different
    - · If sufficiently different:
      - · Each project will move forward
    - · If not sufficiently different:
      - · Projects will be combined
      - · Federal sponsor will be determined prior to coastwide vote (February 28th).
  - This decision will be made at the meeting where the projects are proposed



#### **CWPPRA**

## **RPT Meetings**

- Presenters without factsheets **MUST** complete a PPL 29 Nomination Sign-Up Sheet for <u>each</u> project nominee (demo projects too).
- Presenters with factsheets, please give a factsheet each to Kaitlyn, Michelle & Lonnie <u>before</u> your presentation.
- Limit project proposals to 5 minutes and Powerpoint presentations to 5 slides.
- Public comments on project proposals will be accepted orally during the RPT meetings and in writing by February 21, 2019.
- Limit comments/questions during meeting to PPL 29 subject proposals and processes.

### Coastwide Projects

- Proposes a technique applicable across the coast (e.g. vegetative planting)
- · Nominated at any RPT meeting
- All coastal parishes & agencies will vote on selection of coastwide nominee
- Only one coastwide nominee may be selected from the coastwide nominee pool during the Electronic Coastwide Vote on February 28, 2019.
- The Technical Committee may or may not select a coastwide project in April 2019.



#### **CWPPRA**

### **Demonstration Projects**

- Demonstrates a technology which can be transferred to other areas in coastal Louisiana
- Engineering/Environmental Workgroups will validate that demos fit CWPPRA Standard Operating Procedures criteria
- The RPTs select up to 6 demos during the February 28th Coastwide Electronic Vote.
- The Technical Committee selects up to 3 demos in April 2019.
- Workgroups may recommend that no demos move forward to candidate stage
- Previous demo candidates must be **re-nominated** for PPL 29.



#### Coastwide Electronic Vote (Feb. 28th) to select:

#### **Projects per Basin**

(Determined by loss rates, the highest loss rates have the most projects)

- 4 Barataria
- 4 Terrebonne
- 3 Breton Sound
- 3 Pontchartrain
- 2 Mermentau
- 2 Calcasieu/Sabine
- 2 Teche/Vermilion
- 1 Atchafalaya
- 1 Coastwide
- 22 Total

& up to 6 demos

#### **CWPPRA**

#### Coastwide Electronic Vote

- Each officially designated parish representative, each Federal agency, and the State (CPRA) will have one vote.
- No additional projects can be nominated after the RPTs.
- No significant changes to projects proposed at the first round of RPT meetings will be allowed (this includes combining projects).
- Public comments will be heard today and written comments must be submitted by February 21, 2019.



## Coastwide Electronic Voting Process

- USACE will send out voting sheets as both Excel spreadsheet and PDF documents 1 week prior to the Coastwide Electronic Vote. Voters will only receive voting sheets for the basins that they are eligible to vote for & the column that they need to mark their vote will be highlighted. Voting instructions will be provided with the voting sheets.
- Voters must email their voting sheets to <u>kaitlyn.m.carriere@usace.army.mil</u>

All votes must be received by 10:30 am on February 28, 2019.



#### **CWPPRA**

## Nominee Project Evaluations

- Following the Coastwide Electronic Vote, an agency will be assigned to each project to prepare a Nominee Project factsheet (1 page + map).
- CWPPRA Engineering & Environmental Workgroups review draft features and assign preliminary cost and benefit ranges.
- Work groups will also review demo & coastwide projects and verify that they meet PPL 29 criteria.



## PPL 29 Candidate Project Selection

Candidates evaluated between May and October

- Workgroups conduct site visits and meetings to identify needs and establish project baselines and boundaries.
- Workgroups determine benefits, project features, and cost estimates



#### **CWPPRA**

# PPL 29 Candidate Project Evaluation & Selection

- Coastwide Electronic Vote, Feb. 28, 2019
  - 21 basin-project nominees, 1 coastwide nominee, and 6 demos selected
- <u>Technical Committee Mtg, Apr. 11, 2019, Baton Rouge</u>
  - Selection of 10 candidates and up to 3 demos
- Technical Committee Mtg, Dec. 5, 2019, New Orleans
  - Typically recommend up to 4 projects for Phase 1 funding
- Task Force Mtg, Jan. 2020, New Orleans
  - Final Selection of projects for Phase 1 funding



#### **Written Comments**

- Send written comments on projects & demos proposed today to the CWPPRA program manager
- Deadline: February 21, 2019

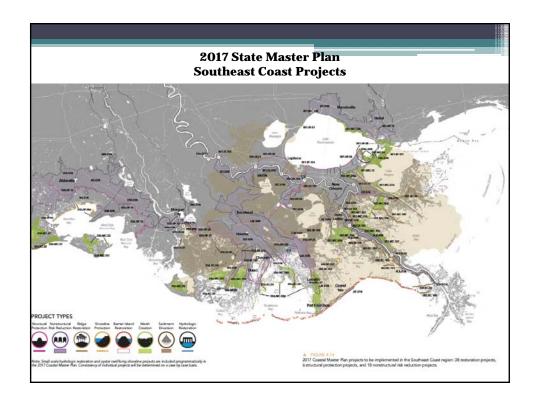
#### **Brad Inman**

Projects and Restoration Branch Chief U.S. Army Corps of Engineers 7400 Leake Avenue New Orleans, Louisiana 70118

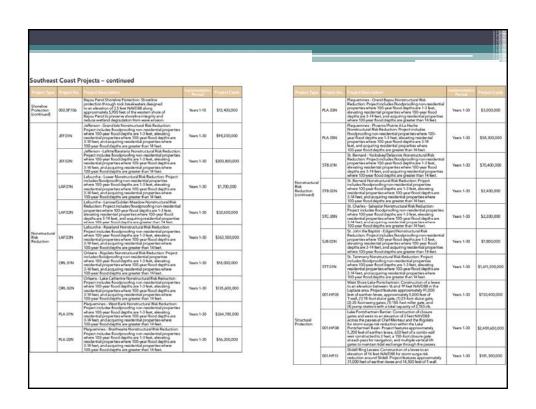
Email: Brad.L.Inman@usace.army.mil

(this information is on the back of the agenda)





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	Personal Fell	Project Description		Preparations	Propert 7gp	Propest No.	Project Description		Projection
Hydrologic Restoration	001.HR.100	LaBranche Hydrologic Restoration: Construction of a 750 cfs hybrid pump-siphon structure, intake structure, and an approximately 1 mile long conveyance system to LaBranche wetlands via the Mississipic fiver to restore the historically fresh.	Years 1-10	\$80,900,000		001.01.100	Manchac Landbridge Diversion: A structure in the existing western spillway guide lenses to disert 2,000 cfs thereby excessing freshwater exchange with adjacent wetlands. Union Freshwater Diversion: Diversion into West Maurepas swerron ear Burnside to provide sediment.	Wars 1-10	\$148,200,0
		to intermediate marshes. Features also include a conveyance channel, roadway, and railroad crossings.				001.01.102	for emergent mursh creation and fresheater and fine	Years 1-10	\$874,700,00
Manh Creation	001.MC.05	New Orleans East Landbridge Restoration: Creation of approximately 11,600 acres of mush in New Orleans East Landbridge to create new wetland habitat and restore degraded marsh.	Years 1-10	\$396,500,000			eardiners to sustain existing westered; 2,5000 cfs. capacity (modele at 2,5000 ft when Mississippi) filter fifty engulat 400,000 cfs; dosed when river flow stellow 200,000 cfs or above 500,000 cfs; a variable flow into calculated using a finant function from 0 and 500,000 cfs and hald contact at 25,000 cfs for river flow between 400,000 cfs and 600,000 cfs. Model flows from 500 cfs.		
	001.MC33	Golden Triangle Marsh Creation: Creation of approximately 3,900 acres of marsh in Golden Triangle Marsh between the MROO and GNWV to create new welfand habitat and rectors degraded marsh.	Years 1-10	\$273,700,000	Sedment				
	001.MC.108	Guste Island Marsh Creation Creation of approximately 700 acres of marsh in St. Tammany Parish along the northeest Lake Porticiantain shoreline to create new westingh labilitat and restore degraded marsh.	Years 1-10	\$64,400,000	Diversion (continued)	001.01.104	send director spours investment seasons and interest of the control of the control of the control of the control of Director bound and mentation land, 2,5000 cfs capacity provided at 35,0000 cfs when the Mississippi River Flow requisit 1,00000 cfs, file on an accidanted using a breast function for viser filter from 200,0000 cfs, cfs, 5,000 cfs minimum filtow maintained when Mississippi River Flow is below 200,000 cfs. Mississippi River Flow is below 200,000 cfs. Mississippi River Flow is below 200,000 cfs.	Years 1-10	\$479,100,0
Ridge Restoration Sediment Diversion	001.RC.100	Bayou Terre aux Boeufs Ridge Rectoration: Restoration of approximately 91,200 feet of historic ridge to an elevation of 5 feet NAVDBI to provide coastal upland habitat, restore natural hydrology, and provide wave and	Years 1-10	\$15,200,000					
	001.RC.103	storm surge attenuation along Buyou Terre aux Boeufs. Carliele Ridge Restoration: Restoration of approximately 38,200 feet of historic edge to an alevation of 5 feet NAVDB8 to provide coastal upland habitat, restore natural hydricology, and provide wave	Years 1-10	\$9,300,000		002.04102	Barataria near Myrtle Grove to build and maintain land, 75,000 cfs capacity throdeled at 5,000 cfs for Mississippi River flows below 200,000 cfs; variable flows to capacity between 200,000 and 1,250,000 cfs calculated using a linear function; cleents exactly	Years 1-10	\$998,800,0
	002.RC.101	and storm surge attenuation near Cartisle.  Adams Bay Roige Restoration: Restoration of approximately 31,600 feet of historic ridge to an approximately 31,600 feet of historic ridge to an elevation of Sheen NAV/DBB to provide ocustal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Adams Bay.	Years 1-10	\$7,200,000	2	001.SP01	25,000 ofts when filture are at 3,250,000 ofts.  Manchac Landondge Shoreline Protection: Shoreline protection through rook breakwaters designed to an elevation of 3.5 feet NAVD88 along approximately 5,500 feet of the west inde of Lake	Years 1-10	\$11,600,0
	002.RC.102	Brow storm using asternation along seams only.  Bayou Eau Noire Ridge Restoration: Restoration of approximately 34,800 feet of historic ridge to an elevation of 5 feet NAVD68 to provide coastal upland habitat, restore natural hydrology, and provide wave	Years 1-10	\$9,800,000			Pontchartrain north of Pass Manchac near Stinking Bayou to preserve showline integrity and reduce westand degradation from wave erosion. Unknown Pass to Rigolets Shoreline Protection:		
	002 RC.103	and storm surge attenuation along Bayou Eau Noire.  Grand Bayou Ridge Restoration: Restoration of approximately 4E,100 feet of his tric ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat.	Years 1-10	\$10,300,000		001.SP301	Shoreline protection through rook breakwaters designed to an elevation of 3.5 feet NAVDB8 along approximately 2,000 feet of the east side of the New Orleans Landbridge from Unknown Plass to the Bigolets to preserve shoreline integrity and reduce wetland deep dealers from weep empiric.	Years 1-10	\$5,200,00
		restore rutural hydrology, and provide wave and storm surge attenuation along Grand Bayou.  Lower Breton Diversion: Sediment diversion of 50,000 chainto Lower Breton Sound to build and maintain land.		512.00	Shoreline Protection	001.SP104	reduce wetland degradation from were erosion. LaBranche Wetlands Shoreline Protection: Shoreline protection through rock breaksuters designed to an elevation of 3.5 feet NAVOBS along approximately 11,100 feet of the southern shore of Like Protributration near	Years 1-10	\$23,100,0
	001.04.02	Imodeled at 50,000 cfs for river flows at 1,000,000 cfs variable flows above 200,000 cfs calculated using a finear function up to 1,000,000 cfs, and open with variable flow rate (larger than 50,000 cfs, estimated	Wears 1-10	\$383,200,000			the LaBranche wetlands to preserve shoreline integrity and reduce wetland degradation from wave erosion. Lake Hermitage Shoreline Protection: Shoreline		
	001.DL18	using linear extrapolation) for riser flow above 1,000,000 cfs. No operation below 200,000 cfs.  Central Wetlands operation: Diversion into Central Wetlands near Violet to provide sediment for energent mash creation and freelywater to sustain existing.	Vears 1-10	\$231,000,000		002.5P:100	protection through rook break-waters designed to an elevation of 3.5 feet NAVDOB along approximately 6,500 feet around the southern show of Lake Nemhage to preserve shoreline integrity and reduce welfand degradation from wave ensure.	Years 1-10	\$14,500,0
		werfands, 5,000 cfs capacity (modeled at a constant flow of 5,000 cfs, independent of the Mississippi River flow). East Maurepes Diversion: Diversion into East Maurepes near Angelina to provide sediment for emergent manh				002.5P.102	East Snail Bay Shoreline Protection: Shoreline protection through not breelowaters designed to an elevation of 3.5 feet NAVD88 along approximately 7,300 feet of the northeastern shore of Snail Bay	Years 1-10	\$15,400,0
	001.01.21	creation and freshwater to sustain existing wellands, 2,000 cfs capacity imodeled at a constant flow of 2,000 cfs, independent of the Mississippi River flow).	Years 1-10	\$164,900,000			south of Little Lake to preserve shoreline integrity and reduce wetland degradation from wave erosion.		



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outneas	Coast F	rojects – continued	htsphores (com	Project Code	Project Type	Project No.	Project Description	heimate	Tenorities.
Structural Protection (continued)	002 HP:06	Upper Baratania Risk Reduction: Construction of a levine to an elevation between 12.5 and 15 feet. NAV/DBB along Highway 90 between the West Bank and Larross. Project includes 204.300 feet of earthen levine, 0,200 feet of "reall", (§ 10-boot sluice gates, 11) 255 foot begre gates, 2) 46-hoot swing gates, and (§)	Years 1-30	\$940,900,000	Ridge Restaution (continued)	002.RC 100	Red Pass Ridge Restoration: Restoration of approximately 23,000 feet of historic ridge southwest of Vervice to provide central upland habital, restore natural hydrology, and provide wave and storm surge at terrusion along the banks of Red Pais. Area Diversion: Sectiment diversion into Upper Baranaria	Years 11-30	\$3,500,00
	03a HP20	pump stations with a total capacity of 6,637 cfs.  Larose to Golden Meadow Improvements to the existing Larose to Golden Meadow News eystem, including raising to an elevation between 12 and 21 feet NAYDBB. Project features approximately 249:300 feet of earther levee and approximately 6,700 feet of 1-wall.	Years 1-30	\$355,500,000	Sediment Diversion	001.04.101	near final to provide sectioner for emergeric manh custom and freshwater to suitain existing settlends. custom and freshwater to suitain existing settlends. Mississippi River flow equals 1,000,000 cits, open with a suitable flow that calculated using a linear function from 0 to 50,000 dis for inver flow between 500,000 cits on the flow to the section of the flow	Years 11-30	\$882,400,000
	001.MC.05	New Orleans East Landbridge Restoration: Creation of approximately 21,800 acres of marsh in New Orleans East Landbridge to create new wetland habitat and restore degraded marsh.	Years 11-30	\$1,106,700,000					
	001.MC.06+	Breton Marsh Creation - Component A: Creation of approximately 12,000 acres of mersh in the Breton Marsh east of Delaconic Idland to create new wetland habitat and restore degraded marsh.	Years 11-30	\$982,400,000	Shoreline Protection	002.SP.103	West Snail Bay Shoreline Protection: Shoreline protection through tock breakwaters designed to an elevation of 3.5 feet NAVOBB along approximately 16,600 feet of the western shoreline of Snail Bay south of Little Lake	Years 11-30	\$30,000,00
	001.MC.07a	Lake Borgne Marsh Creation - Component A: Creation of approximately 5,900 acres of marsh along the south shoreline of Lake Borgne near Proctors Point to create new wetland habitat and restore degraded marsh.	Years 11-30	\$271,700,000	7100000		to preserve shoreline integrity and reduce wetland degradation from wave erosion.  St. Charles - Hahmelle/Lulino Nonstructural Risk		
Marsh Creation	001.MC.08a	Central Wetlands Marsh Creation - Component A: Creation of approximately 2,800 acres of marsh in Central Wetlands near Bayou Bierwerus to create new wetland habitat and restore degraded marsh.	Years 11-30	\$122,300,000	Nonstructural	STC.OIN	Reduction: Project includes Boodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 31-50	\$829,500,00
	001.MC.102	Pointe a la Hache Marsh Creation: Creation of approximately 12,700 acres of marsh on the eastbank. of Plaquemines Parish near Pointe a la Hache to create new watland habitat and restore degraded marsh.	Years 11-30	\$644,800,000	Risk Reduction	STJOZN	St. James - Vacherie Nonstructural Risk Reduction: Project includes Boodproofing non-residential properties where 100-year Bood depths are 1-3 feet, elevating residential properties where 100-year Bood depths are	Years 31-50	\$3,900,00
	001.MC.104	East Bank Land Bridge Marsh Creation: Creation of approximately 2, 300 acres of marsh in Plaquemines. Parish between Grand Lake and Lake Lery to create new wetland habitat and restore degraded marsh.	Years 11-30	\$154,200,000			13-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.  Greater New Orleans High Level: Improvements of		
	001.MC.105	Spanish Lake Marsh Creation: Creation of approximately 800 acres of manh in Plaquernines Parish along the eastern shore of Spanish Lake to create new wetland habitat and restore degraded mansh.	Years 11-30	\$59,900,000	Structural Protection	0013HP04	writing Humicane and Storm Dumage Bisk Reduction System levels surrounding the East Bank of Greater New Orleans to elevations between 19 and 35 feet NAVOSB. Project features approximately 242,100 feet of E-wall. levels and approximately 242,100 feet of E-wall.	Years 31-50	\$2,222,700,0
	001.MC.106	St. Tansnary Marsh Creation: Creation of approximately 6,700 acres of marsh in St. Tansmary Parish along the northern shore of Lake Ponschartrain to create new wetland habitat and restore degraded marsh.	Years 11-30	\$199,300,000		001.MC.101	Uhan Bay Marsh Creation: Creation of approximately 700 acres of marsh on the east bank of Flaquemines. Parish around Uhlan Bay to create new wetland habitat and nettore degraded marsh.	Years 31-50	\$29,000,00
	001.MC107	Tiger Ridge/Maple Knoll Marsh Creation: Creation of approximately 4,700 acres of marsh in Plaquemines Farish near Tiger Ridge to create new wetland habitat and restore degraded marsh.	Years 11-30	\$214,600,000	Mansh Creation	001.MC.102	Points a la Hache Marsh Creation: Creation of approximately 5,400 acres of marsh on the east bank of Flaquemines Parish near Points a la Hache to create new welfand habitat and restore degraded marsh.	Years 21-50	\$383,700,00
	002 MC 05e	Large-Scale Bar at aria Manh Cheation - Component E: Creation of approximately 12,900 acres of meth in the Bestaria Basin south of the Pen to the Barataria Landbodge to unstein new werfand habitat and methore degraded me	Years 11-30	\$674,500,000		002.MC.04a	Lower Barataria Marsh Creation - Component A: Creation	Years 31-50	\$709,500,00
Ridge Restoration	001.RC.01	Bayou LaLoutre Ridge Restoration: Restoration of approximately 108, 900 feet of his tonic ridge to an elevation of 5 feet NAVISB to provide costal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou LaLoutre.	Years 11-30	\$20,200,000					
	002.RC.02	and shorth surge attenuation along bisyou Lukoutes. Spanish Pass Ridge Restoration: Restoration of approximately 46,000 feet of historic nidge to an elevation of 5 feet NAVOBE to provide coastal upland habitat, restore natural hydrology, and provide serve and storm ourge attenuation west of Venice along the banks of Spanish Pass.	Years 11-30	\$11,600,000					

# Region 2-Breton Sound Basin

#### Region 2 – Breton Sound Basin

BS-01	Bayou Terre aux Boeufs Ridge Restoration and Marsh Creation
BS-02	Bayou Terre aux Boeufs North Ridge Restoration and Marsh Creation
BS-03	Spanish Lake Shoreline Restoration and Marsh Creation
BS-04	Breton Landbridge Central Marsh Creation
BS-05	Spanish Lake Marsh Creation, South Shoreline **project overlap with BS-03; BS-03 moved forward**
BS-06	North Delacroix Marsh Creation and Terracing
BS-07	Reggio Marsh Creation and Hydrologic Restoration
BS-08	Davant Marsh Creation (Increment 1)
BS-09	Wills Point South Marsh Restoration
BS-10	Phoenix Marsh Creation - East Increment

BS-01

#### PPL28 Bayou Terre aux Boeufs Ridge Restoration and Marsh Creation

#### **Project Location**

Region 2, Breton Sound Basin, Plaquemines Parish, west of bayou Terre Aux Boeufs

#### **Problem**

Historic ridge habitat loss occurs in the form of subsidence and shoreline erosion along Bayou Terre aux Boeufs (BTAB). The shoreline erosion is caused by boat traffic from recreational and commercial vessels. The ridge is subsiding due to anthropogenic and natural processes. The habitat associated with ridges in Louisiana is Live Oak Hackberry forest. This ecosystem is utilized by trans-gulf migratory bird species as a first and last stop when crossing the Gulf of Mexico. This critical habitat is rated as S1 and S2 priority by the state of Louisiana. Interior marsh loss in the project site is caused by subsidence, increased tidal prism and salinities due to construction of access and or transmission canals. The BTAB ridge is the barrier that separates brackish from intermediate marsh in the Breton Basin. Loss of this hydrological barrier could pose greater threats to already diminishing intermediate marshes. Based on the hyper-temporal analysis (1985-2018) conducted by USGS loss rates are estimated to be -0.65% per year.

#### Goals

The primary goals of this project are: 1) create forested, coastal ridge habitat along the western bank of Bayou Terre aux Boeufs, and 2) restore marsh habitat in the open water areas via marsh creation and marsh nourishment. Specific goals of the project are: 1) Create approximately 28,218 linear feet (22 acres) of forested ridge; and 2) create approximately 286 acres and nourish approximately 249 acres of marsh with dredged material from Cochon Bay.

Related goals include restoration/protection of habitat for threatened and endangered species and other at-risk species. This project would restore habitat potentially utilized by the black rail, saltmarsh topminnow, and Louisiana eyed silkmoth, which are petitioned for listing as threatened/endangered species. The project could also benefit other species of concern including the seaside sparrow and neotropical migrants.

#### **Proposed Solution**

Lake sediments will be hydraulically dredged and pumped via pipeline to create 286 acres of marsh and nourish 249 acres of marsh. The bayou will be mechanically dredge to create 28,214 linear feet (22 acres) of ridge habitat. Containment dikes will be gapped and the ridge will be planted.

#### **Project Benefits**

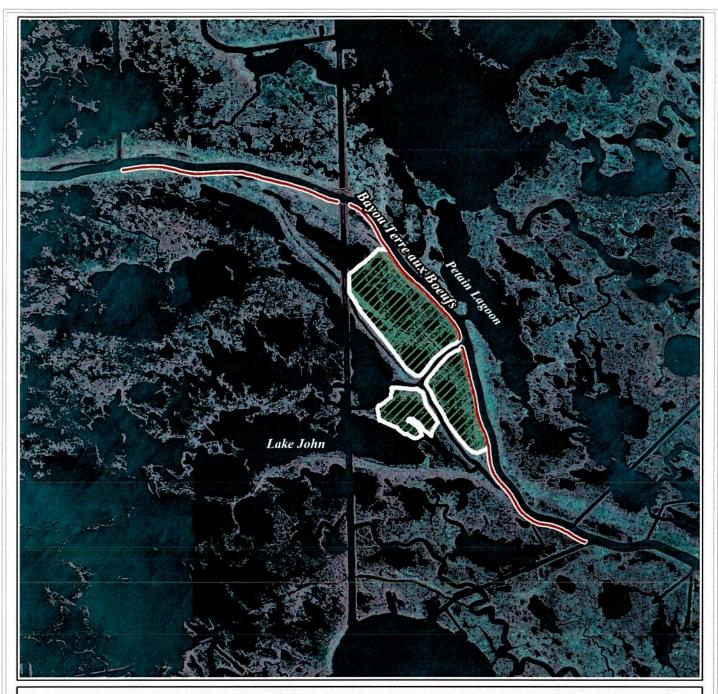
The project would result in approximately 262 net acres of marsh and 22 acres of forested ridge over the 20-year project life.

#### **Preliminary Cost**

The total fully-funded cost is \$38,432,042

#### Preparer of Fact Sheet

Ron Boustany, USDA/NRCS, ron.boustany@la.usda.gov



# **Bayou Terre aux Boeufs Ridge Restoration** and Marsh Creation (PPL28 Candidate)



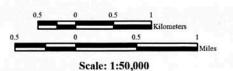


Marsh Creation \*

Ridge Restoration \*

**Project Boundary** 

\* denotes proposed features





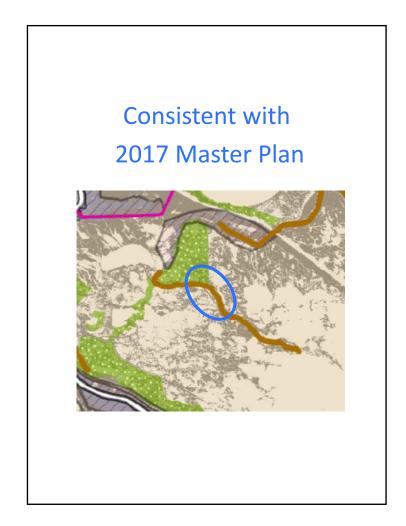


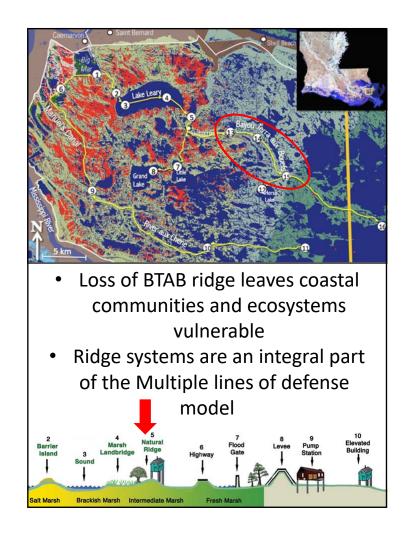
Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source: 2017 NAIP

Map ID: 2018-11-0021 Map Date: May 31, 2018 Bayou Terre aux Boeuf Ridge Restoration and Marsh Creation

> Region 1 Breton Basin







# Bayou Terre Aux Boeuf

# **Ridge Restoration**

- 4.73 miles of Ridge
- 22 acres of S1/S2 Live Oak Hackberry Forest Habitat

#### **Marsh Creation**

• 286 acres total

#### Marsh Nourishment

• 249 acres total

Total cost + Contingency =20-25 Million



BS-02

#### PPL29 PROJECT FACT SHEET February 14, 2019

#### **Project Name**

Bayou Terre aux Boeufs North Ridge Restoration and Marsh Creation

#### Master Plan Strategy

Bayou Terre aux Boeufs Ridge Restoration (2017 Master Plan 001.RC.100): Restoration of approximately 91,200 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou Terre aux Boeufs. Breton Marsh Creation- Component A (2017 Master Plan 001.MC.06a): Creation of approximately 12,000 acres of marsh in the Breton Marsh east of Delacroix Island to create new wetland habitat and restore degraded marsh.

#### **Project Location**

Region 2, Breton Sound Basin, Plaquemines & St. Bernard Parishes

#### Problem

As a result of storm events, subsidence, and sea level rise, among other factors, the ridge has degraded in this area. As the ridge continues to degrade the water bodies on each side merge creating a much larger open water area, bringing increased wave fetch, storm surge, and conversion of the remaining fragmented wetlands into open water areas. The area remains vulnerable to future hurricane damage and subsidence and is a Tier 1 Priority Project area for St. Bernard Parish (St. Bernard Priority Coastal Projects 2016).

#### **Proposed Solution**

Create 14766 linear feet of ridge along Bayou Terre aux Boeufs to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation. Create/nourish 325 acres emergent marsh with sediment from the Lake Lery.

#### **Project Benefits**

Create 14766 linear feet of ridge along Bayou Terre aux Boeufs and create/nourish 325 acres (create 250 acres and nourish 75 acres) emergent marsh.

#### **Project Costs**

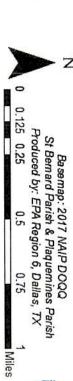
The estimated construction cost including 25% contingency is \$25M - \$30M.

#### Preparer(s) of Fact Sheet:

Sharon L. Osowski, Ph.D.; EPA; (214) 665-7506; osowski.sharon@epa.gov Adrian Chavarria, EPA; (214) 665-3103, chavarria.adrian@epa.gov



North Bayou Terre aux Boeufs Ridge Restoration & Marsh Creation







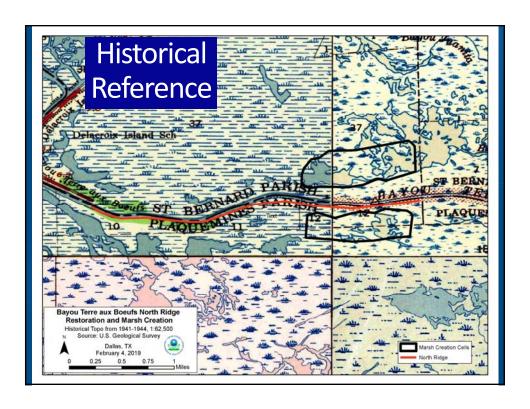


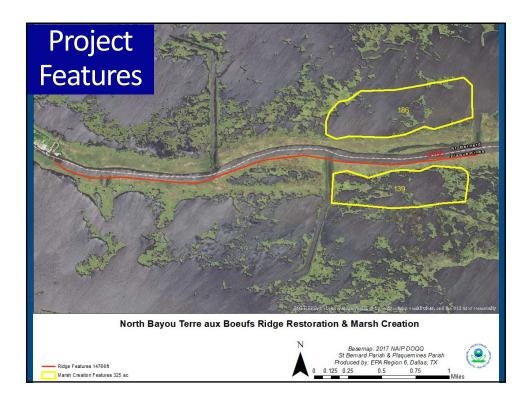




# **Problems**

- Historic ridge is degrading between the water bodies on both sides which may cause them to merge creating additional impacts
- Subsidence
- Storm events
- Fragmenting wetlands supporting the ridge
- Both Plaquemines (55%) and St. Bernard (72%) Parishes could lose extensive land area over the next 50 years and experience severe storm surge flood risk (2017 MP).





# Potential Species & Habitats Protected or Restored T & E Species Migratory Birds American Golden-plover Am Oystercatcher (Breeding) Sturgeon Black Skimmer (Breeding) Manatee Many shorebirds

# **Project Goals**

- Restore 14766 linear feet of historical ridge
- Synergistic with NOAA E Delacroix project and others in Breton Sound and proposed projects on Bayou Terre au Boeufs
- Addresses St. Bernard Parish Priority Project Tier 1
- Create/nourish 325 acres (create 250 acres and nourish 75 acres) of emergent marsh as additional support for the ridge feature with sediment from either Lake Lery
- Construction cost + 25% contingency is \$25M \$30M

BS-03

#### PPL29 PROJECT NOMINEE FACT SHEET February 14, 2019

#### **Project Name**

Spanish Lake Shoreline Restoration and Marsh Creation

#### **Project Location**

Region 2, Breton Basin, Plaquemines Parish, west of Grand Lake and east of Spanish Lake.

#### Problem

From 1932 to 1990, the Caernarvon Mapping Unit lost 14,240 acres of its marsh. Prior to Hurricane Katrina, the greatest lost documented occurred between 1956 and 1974 and coincided with Hurricane Betsy and extensive canal building. Hurricane Katrina in 2005 devastated the area resulting in substantial marsh loss. According to USGS Open File Report (2006-1274), approximately 39 square miles of marsh around the upper and central portions of Breton Sound were converted to open water by mechanical removal of the marsh or by marsh submergence. Based on the hyper-temporal analysis conducted by USGS for the extended project boundary, the loss rate in the project area is estimated to be –1.99 %/year for the period 1984 to 2016.

#### Goals

The goal of this project is to restore the eastern shoreline of Spanish Lake with a more robust marsh (slightly higher than typical CWPPRA marshes) and create more typical intertidal marsh in the open water and fragmented marshes east of that restored shoreline.

Specific goals: 1) Create approximately 270 acres and nourish approximately 30 acres of intermediate to low salinity brackish marsh around the perimeter of Spanish Lake. 2) Restore approximately 17,000 linear feet of Spanish Lake's eastern shoreline.

#### **Proposed Features**

- 1. Hydraulically dredge material from the Mississippi River (Alliance or Alliance South Anchorage) to create/nourish 300 acres of marsh.
- 2. Approximately 17,000 linear feet of shoreline would be restored with material dredged from Mississippi River.
- 3. Material would be shaped from a higher elevation near the newly created shoreline to a lower elevation east of that shoreline.
- 4. Because river material will be used, earthen containment would not be necessary.

#### **Preliminary Project Benefits**

- What is the total acreage benefited both directly and indirectly?
   This total project area is 553 ac.
- 2) How many acres of wetlands will be protected/created over the project life? Approximately 235 net acres would result after the 20-year project life.
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74%, and >75%)?

The anticipated land loss rate reduction throughout the area of direct benefits is approximately 50% to 74% over the project life.

- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc? This project would restore the eastern shoreline of Spanish Lake.
- 5) What is the net impact of the project on critical and non-critical infrastructure? This project would protect small camps along Bayou Decade.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?
  This project would work synergistically with the constructed BS-16, BS-32, and the newly selected Grand Lake West marsh creation project.

#### **Preliminary Cost**

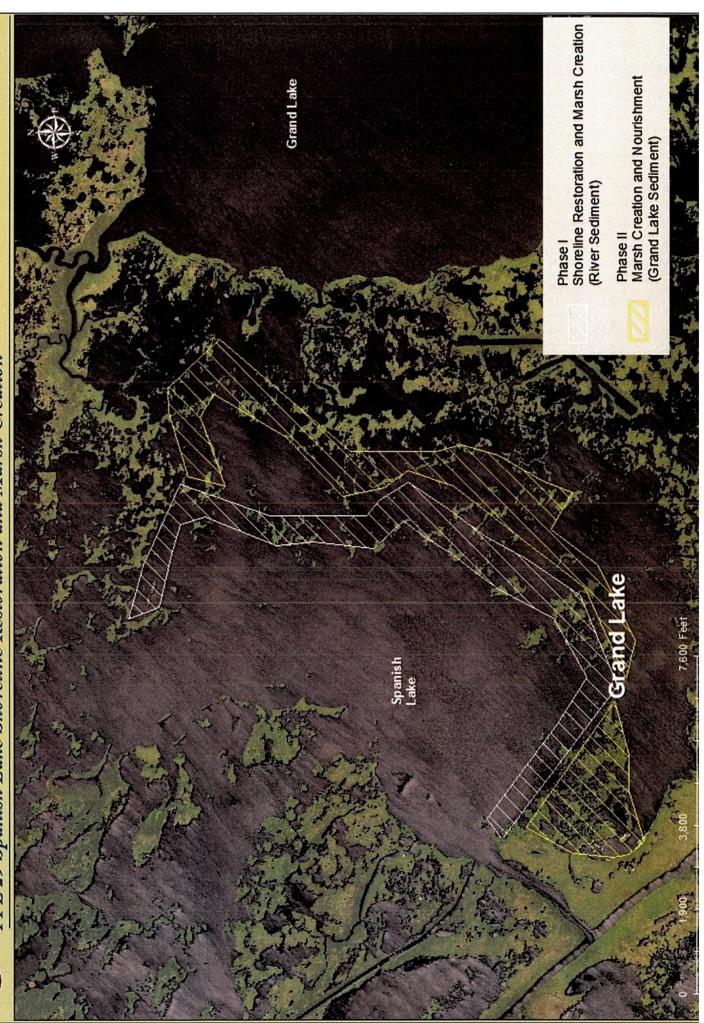
The construction cost range plus 25% contingency is estimated to be \$25-\$30M.

#### Preparer(s) of Fact Sheet:

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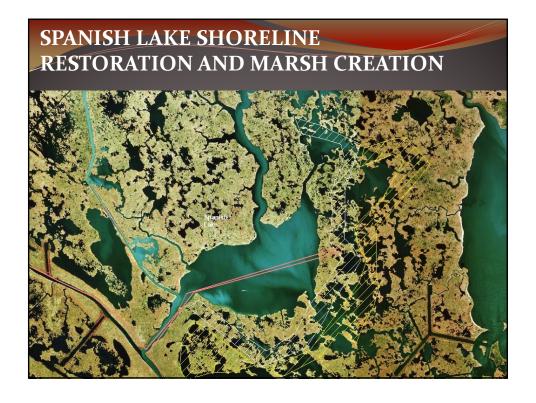
# U.S. Fish & Wildlife Service

PPL 29 Spanish Lake Shoreline Restoration and Marsh Creation









# SPANISH LAKE SHORELINE RESTORATION AND MARSH CREATION

#### **Problem:**

- Hurricane Katrina destroyed thousands of acres of marsh
- Estimated over 40 sq. miles of marsh were converted to open water from Hurricane Katrina
- Because of increased open water, wave fetch induced erosion is now a problem
- Emergent marsh is being/has been lost west of the Grand Lake shoreline. Grand Lake shoreline is not seem to be eroding at significantly high rates (6 ft./yr.).



# SPANISH LAKE SHORELINE RESTORATION AND MARSH CREATION

#### **Solution:**

- Hydraulically dredge material from the Mississippi River to restore the eastern shoreline of Spanish Lake
- Hydraulically dredge material from the Mississippi River to create 270 acres and nourish 30 acres of emergent intertidal marsh.
- Because this is proposed with river material, no containment dikes are being proposed at this time.

# SPANISH LAKE SHORELINE RESTORATION AND MARSH CREATION

#### Goals:

- Restore approximately 17,000 ft. of the eastern Spanish Lake shoreline with material dredged from the Mississippi River.
- Create/nourish 300 acres of enhanced (slightly higher) and lower intertidal marsh between Spanish and Grand Lakes with material dredged from the Mississippi River.

#### **Net Acres:**

• Total net acres = 235 acres (not including hydraulic components)

## **Preliminary Construction Costs**

• The estimated construction cost range plus 25% contingency \$25-\$30M.

# **Species of Concern and Rare Species**

- Least Bittern
- Black Rail
- Mottled Duck
- King Rail

BS-04

#### PPL29 PROJECT NOMINEE FACT SHEET February 14, 2019

**Project Name** 

Breton Landbridge Central Marsh Creation

**Project Location** 

Region 2, Breton Basin, Plaquemines Parish

#### Problem

Historically, this area was nourished by the freshwater delivered by the Mississippi River until the creation of the levees along the lower river. In 1991, the Caernarvon Freshwater Diversion began delivering freshwater to the marshes in the area. The major cause of wetland loss has been to storm activity (i.e. Hurricanes Betsy and Katrina), causing both storm-induced scouring and salt water intrusion. High subsidence rates range from 2.1-3.5 ft/century. Natural lakes and bays are increasing in size due to coalescence with marsh lost to water and increased wave fetch. The 1984 to 2016 USGS loss rate is -1.79%/yr for the extended project boundary area from the average of the adjacent Breton Landbridge West and Mid-Breton Landbridge projects (both recently authorized).

#### Goals

The project goal is to restore approximately 410 acres of marsh and banklines along the north shore of Grand Lake at the intersection with Bayou Gentilly and Petit Lake. This is the proposed third phase in a comprehensive restoration goal to create/nourish 1,000 to 2,000 acres of marsh across seven miles of the Breton Basin from River aux Chenes to Bayou Terre aux Bouefs.

#### **Proposed Solution**

There will be approximately 310 and 100 acres of marsh creation and marsh nourishment, respectively, via confined disposal in two disposal areas of sediment dredged from Grand Lake. A portion of the disposal area at the intersection of Grand Lake, Bayou Gentilly, and Petit Lake would be fronted by constructing a lakeside berm. The lakeside slope of the berm would be planted with appropriate vegetation. The marsh creation acres would not be planted. The non-lakeside portions of the dikes will be gapped no later than three years post construction (i.e., the lakeshore berm would not be gapped). If selected for candidacy, small terrace fields may be added north of the marsh creation to provide protection from shoreline erosion.

The overall landbridge concept incorporates marsh and shoreline restoration in a west-to-east configuration across the basin to be completed in three phases. Once restored, the land-bridge would reduce the potential for coalescence of Lake Lery with Grand Lake and Lake Petit.

#### **Preliminary Project Benefits**

- What is the total acreage benefited both directly and indirectly?
   This total project area is 410 ac.
- 2) How many acres of wetlands will be protected/created over the project life? Approximately 250-300 acres of habitat will be protected/created over the project life.

- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?

  The anticipated land loss rate reduction throughout the area of direct benefits will be 50-74% over the projects life.
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?

  The project will restore the structural frame work of Grand Lake and Bayou Gentilly.
- 5) What is the net impact of the project on critical and non-critical infrastructure?

  The project would have minor net positive impact non-critical oil and gas infrastructure in the project vicinity.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?

  The project will have a synergistic effect the authorized Mid-Breton Landbridge project, South Lake Lery Shoreline and Marsh Restoration (BS-16), Terracing and Marsh Creation South of Big Mar (BS-24), and other increments of comprehensive plans along the Breton Landbridge.

#### Considerations

The proposed project has potential utility/pipeline considerations.

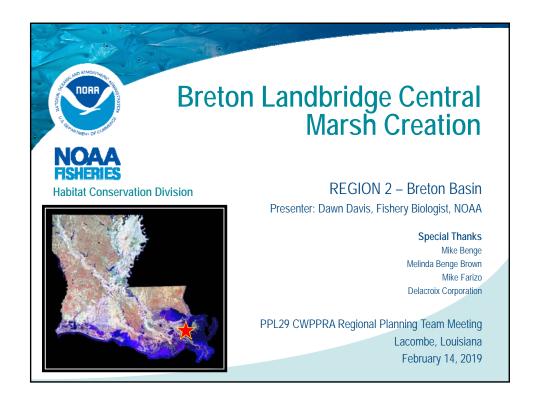
#### **Preliminary Construction Costs**

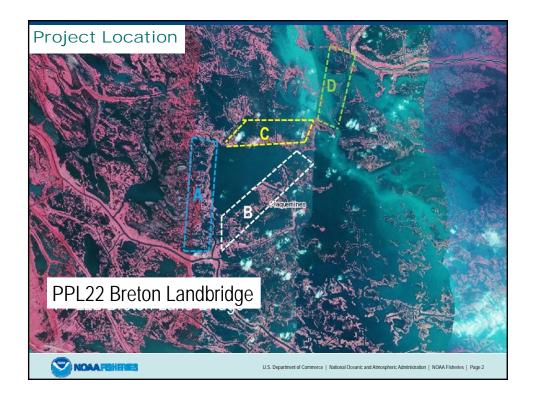
The construction cost + 25% contingency range is \$20M-\$25M.

#### Preparer(s) of Fact Sheet:

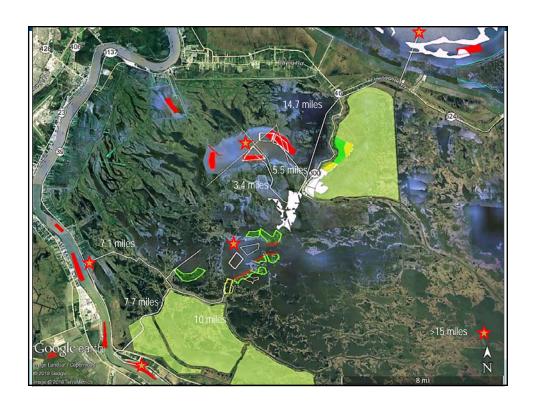
Dawn Davis, NOAA Fisheries, 225-380-0041, <u>dawn.davis@noaa.gov</u> Patrick Williams, NOAA Fisheries, 225-380-0058, <u>patrick.williams@noaa.gov</u>



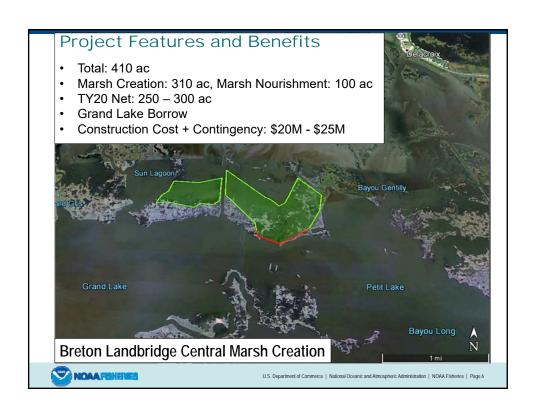


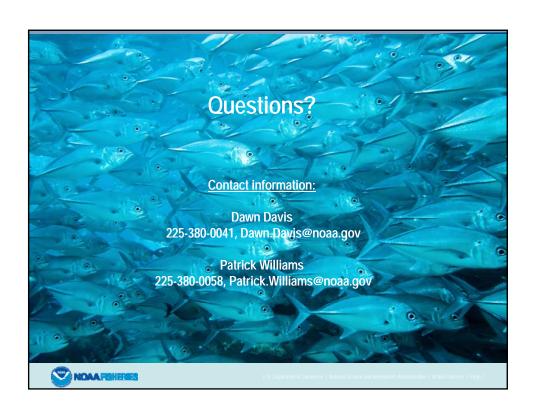












#### PPL29 PROJECT NOMINEE FACT SHEET February 14, 2019

**Project Name** 

Spanish Lake Marsh Creation, South Shoreline

**Project Location** 

Region 2, Breton Basin, Plaquemines Parish

#### Problem

Wetland loss in Breton Sound Basin from subsidence, saltwater intrusion, erosion of wetlands, river levee and oil/gas construction has caused large impacts to this region in recent decades. After Hurricane Katrina in 2005, a major wetland loss event occurred in this area due to both storm-induced scour and salt water intrusion into the lower salinity marshes. The altered hydrology and oil/gas development have exacerbated this storm-related loss. Spanish Lake continues to increase in size due to coalescence with marsh lost to water and increased wave fetch. High subsidence rates range from 4.4-6.5 mm/year. The 1984 to 2016 USGS land loss rate for this area is -1.76%/yr (adjacent Breton Landbridge Marsh Creation West project (PPL28 candidate)).

#### Goals

The project goal is to create and nourish approximately 300 acres of intermediate marsh along the southern bank of Spanish Lake.

#### **Proposed Solution**

The proposed solution would be to create approximately 246 acres and nourish 54 acres to restore the southern portion of the Spanish Lake shoreline. Sediment will be hydraulically pumped from the Myrtle Grove borrow source in the Mississippi River near Phoenix, LA. Temporary containment dikes will be constructed and gapped within three years of construction to allow greater tidal exchange and estuarine organism access. This marsh creation project is envisioned as part of a larger restoration effort of continuing to restore the northeastern shoreline of Spanish Lake with an additional phase of marsh creation.

#### **Preliminary Project Benefits**

- What is the total acreage benefited both directly and indirectly?
   The total project area is approximately 300 acres.
- 2) How many acres of wetlands will be protected/created over the project life? The net acre benefit range is 200-250 acres after 20 years.
- What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?

  A 50% loss rate reduction is assumed for the marsh creation and marsh nourishment. (USGS hyper-temporal data from 1984 to 2016 shows -1.76%/year from an adjacent CWPPRA PPL28 candidate.)

- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?
  - The project will help restore portions of Spanish Lake shoreline.
- 5) What is the net impact of the project on critical and non-critical infrastructure?

  The project may have minor net positive impact to non-critical infrastructure comprised of pipelines and oil and gas wells.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?
  The project will have synergistic effects with: 1) BS-16 South Lake Lery Shoreline and Marsh Restoration, 2) BS-24 Terracing and Marsh Creation South of Big Mar, 3) CIAP project constructed west of Delacroix, 4) the Caernarvon Freshwater Diversion,
  5) Mid-Breton Land Bridge Marsh Creation and Terracing (recently authorized), and
  - 6) Breton Landbridge Marsh Creation (West) (recently authorized).

#### Considerations

The proposed may have land rights considerations.

#### **Preliminary Construction Costs**

The estimated construction cost plus 25% contingency range is \$35M-\$40M.

#### Preparer(s) of Fact Sheet:

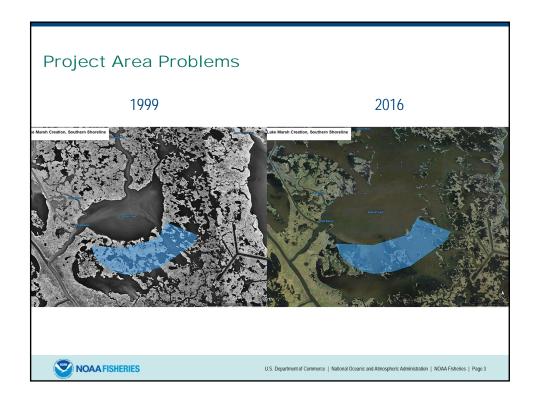
Dawn Davis, NOAA Fisheries, 225-380-0041, <a href="mailto:dawn.davis@noaa.gov">dawn.davis@noaa.gov</a> Jason Kroll, NOAA Fisheries, 225-757-5411, <a href="mailto:jason.kroll@noaa.gov">jason.kroll@noaa.gov</a>

Spanish, Lake Marsh Creation, South Shureline 300 ac Marsh Creation PPL 29 RPT Nominee

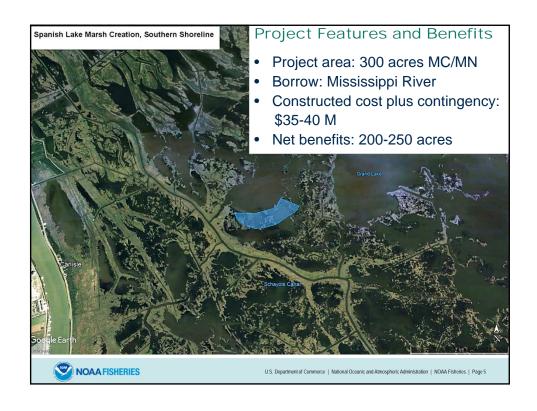


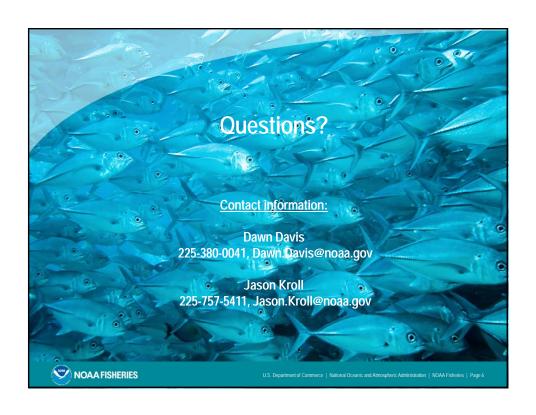












#### PPL29 PROJECT NOMINEE FACT SHEET February 14, 2019

**Project Name** 

North Delacroix Marsh Creation and Terracing

**Project Location** 

Region 2, Breton Basin, St. Bernard Parish

#### Problem

Hurricanes Katrina and Rita caused the majority of wetland loss in the project area. Wind erosion and saltwater intrusion have resulted in loss of marsh vegetation and wetland soils. Marsh loss has increased exposure of Delacroix to flooding from the east/southeast. The 1985 to 2016 Jean Louis Robin subunit loss rate is -0.66%/year (yr). The expanded project boundary loss rate from PPL27 E Delacroix is -0.61%/yr from 1985 to 2016.

#### Goals

The project goal is to create and nourish approximately 389 acres (ac) of marsh (311 ac creation 78 ac nourishment) and construct approximately 17,540 linear feet (lf) of terraces (approximately 11 emergent ac) utilizing a layout to help protect the community of Delacroix. Sediment would be mined from Lake Lery and placed east of Delacroix via pipeline. The borrow area would be designed to avoid adverse impacts to the existing shorelines of Lake Lery. The terraces slopes and crown would be planted with appropriate marsh vegetation. During both Phase 0 and Phase 1, opportunities would be explored to increase the amount of marsh creation. The project would work synergistically with the East Delacroix Marsh Creation and Terracing project funded for engineering and design in PPL28.

#### **Preliminary Project Benefits**

- What is the total acreage benefited both directly and indirectly? This total project area is 400 ac.
- 2) How many acres of wetlands will be protected/created over the project life? Approximately 250 300 ac of marsh will be protected/created over the project life.
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?

  The anticipated land loss rate reduction throughout the area of direct benefits will be 50-74% over the projects life.
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?

  The project will help protect the Bayou Terre aux Boeuf Ridge.
- 5) What is the net impact of the project on critical and non-critical infrastructure?

  The project would have moderate net positive impact to critical infrastructure which consists of Delacroix Highway, a hurricane evacuation route, and residences of Delacroix.

Net positive impact would result from providing synergistic flood protection with the back levee and help protect the highway.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?
The project will have a synergistic effect with the CIAP project constructed west of Delacroix helping to protecting Delacroix from wave fetch.

#### Considerations

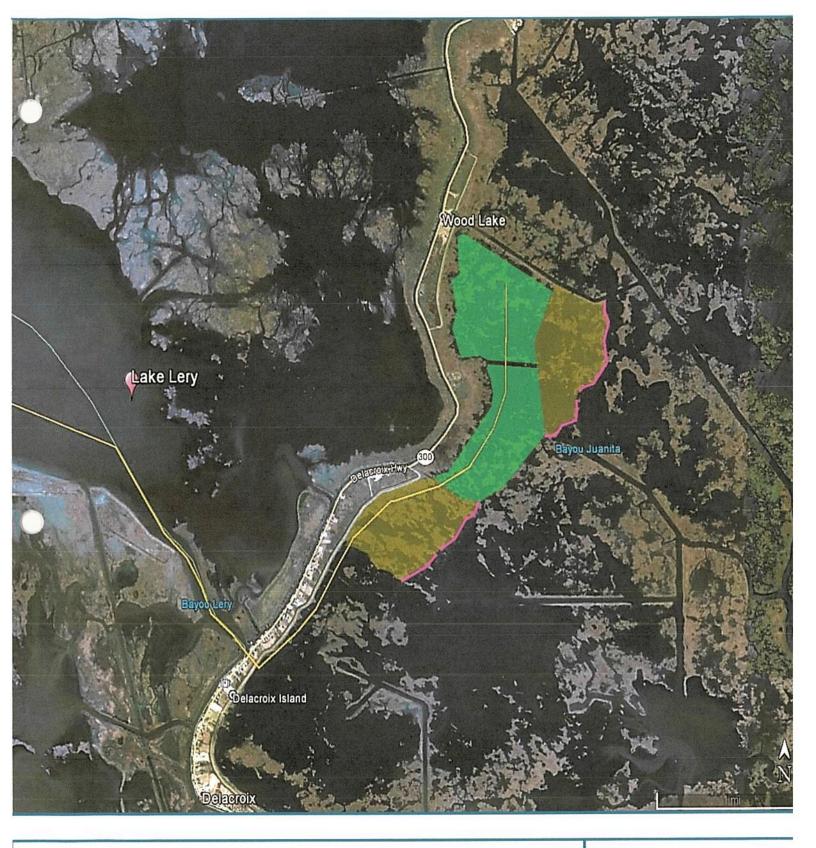
The proposed project has potential utility/pipeline considerations.

#### **Preliminary Construction Costs**

The estimated construction cost plus 25% contingency is \$25M - \$30M.

#### Preparer(s) of Fact Sheet:

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# PPL29 North Delacroix Marsh Creation and Terracing

311 Acres Marsh Creation 78 Acres Marsh Nourishment 17,540 Feet Terraces Federal Sponsor: NOAA Fisheries 2018 Aerial Imagery Map Date 11-15-2018

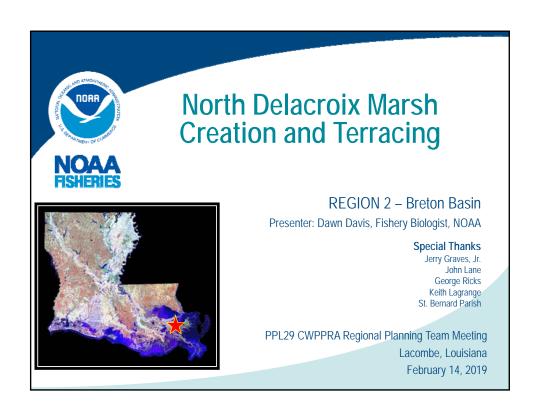
# Legend

Sediment Retention Terrace

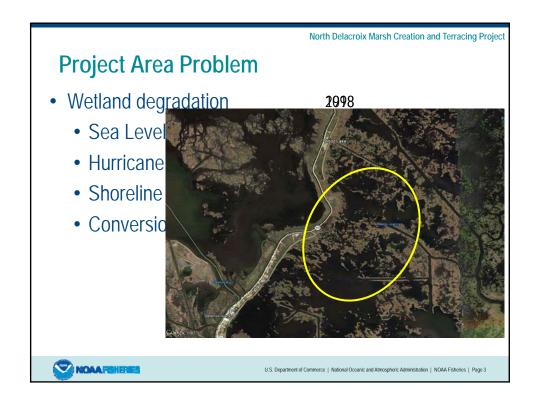
Sediment Retention Areas



Marsh Creation Areas







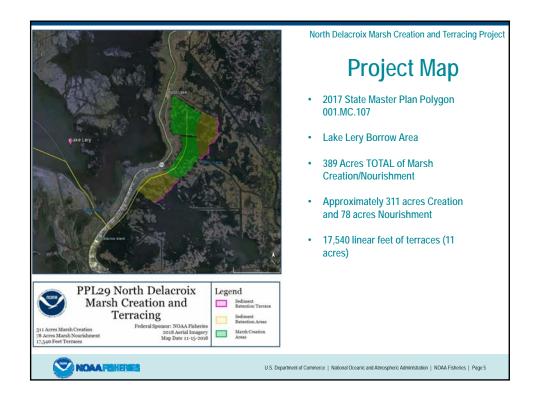
North Delacroix Marsh Creation and Terracing Project

#### **Restoration Solution**

- 389 Acres of Marsh Creation/Nourishment and 17,540 linear feet of terraces
  - 311 acres of marsh creation & 78 acres of marsh nourishment
  - 11 acres of terraces
  - Hydraulically dredge material from Lake Lery
  - Contained Fill areas with dike gapping after construction



U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 4





#### PPL29 PROJECT FACT SHEET February 14, 2019

#### **Project Name**

Reggio Marsh Creation and Hydrologic Restoration

#### Master Plan Strategy

Breton Marsh Creation-Component A (2017 Master Plan 001.MC.06a): Creation of approximately 12,000 acres of marsh in the Breton Marsh east of Delacroix Island to create new wetland habitat and restore degraded marsh.

#### **Project Location**

Region 2, Breton Sound Basin, St. Bernard Parish

#### Problem

St. Bernard Parish may experience some of the highest rates of wetland loss over the next 50 years of any coastal parish and with no further action, it could lose an additional 237 sq. miles (72% of the parish land area; 2017 Master Plan Appx A). Locations outside the levees could experience increased storm surge flood risk. This project area has experienced wetland loss due to a variety of factors including subsidence, saltwater intrusion, and storm damage. Hurricane Katrina devastated the area resulting in substantial marsh loss which has exposed infrastructure to open water conditions. Canals in the area have increased the effects of salt water pulses in the fall which subsequently cause the vegetation to die off and decay to the W and N of the canals (identified in red on the map).

#### **Proposed Solution**

Create/nourish 483 acres of wetlands by converting open water into marsh and nourishing existing marsh remnants with sediment hydraulically dredged from a borrow source in Lake Lery (if Lake Lery becomes impractical, Lake Borgne could also be targeted). Temporary containment dikes will be constructed and gapped within three years of construction to allow greater tidal exchange and estuarine organism access. In addition, two canals (1563ft) are proposed to be plugged to counteract saltwater intrusion. Restoration in this area would build the area's defenses against hurricanes and flooding.

#### **Project Benefits**

Create/nourish 483 acres (create 285 acres and nourish 197 acres) of emergent marsh with sediment dredged from Lake Lery and plug two canals totaling 1,563ft.

#### **Project Costs**

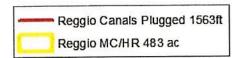
The estimated construction cost including 25% contingency is \$15M - \$20M.

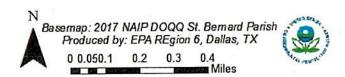
#### Preparer(s) of Fact Sheet:

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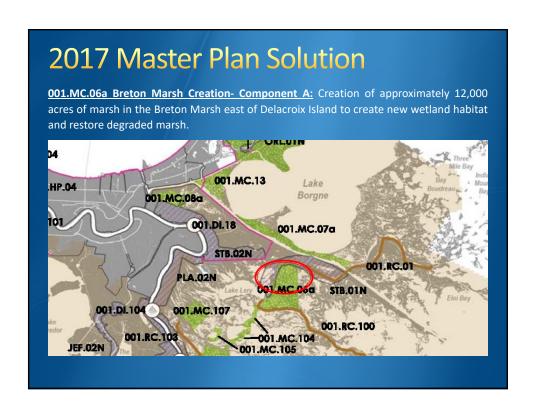


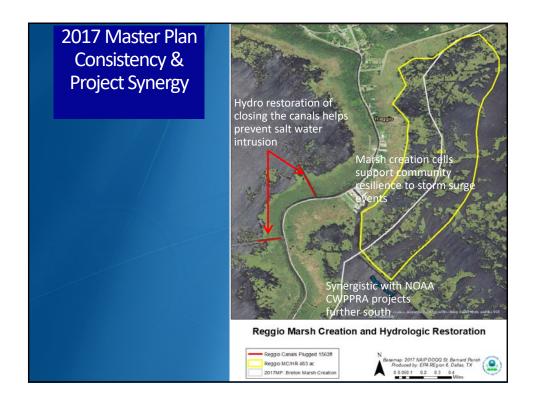
Reggio Marsh Creation and Hydrologic Restoration













# **Problems**

- Storm impacts from Hurricane Katrina
- Saltwater intrusion through the MC polygons makes its way to the W via the two small canals causing high salinity conditions in the fall which then causes vegetation die off and decaying conditions to the W & N of the canals
- Subsidence & Sea-level rise
- St. Bernard Parish may experience some of the highest rates of wetland loss and increased flood risk over the next 50 years (2017 MP)

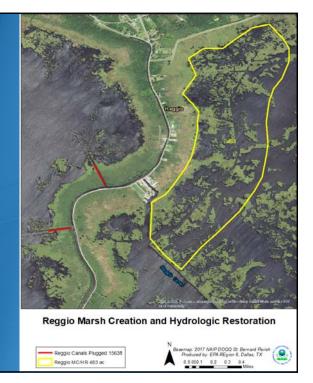
# Historical Reference

9 1941



# Project Features

- Create/nourish 483 acres emergent marsh
- Sediment from Lake Lery
- Full containment
- Close 1563 ft of canal



# Potential Species & Habitats <a href="Protected">Protected</a> or Restored

### T & E Species

- Piping Plover
- Red Knot
- Sea Turtles
- Sturgeon
- Manatee

## **Migratory Birds**

- American Golden-plover
- Am Oystercatcher (Breeding)
- Black Skimmer (Breeding)
- Many shorebirds

# **Project Goals**

- Create/nourish 483 acres (create 285 acres and nourish 197 acres) of emergent marsh with sediment from Lake Lery and close 1563 ft of canal
- Resiliency from storm surge for the community of Reggio
- May address St. Bernard Parish Priority Project Tier 1: Lake Lery MC polygon
- Restore wetland habitat by reducing fall high salinity conditions so that intermediate/freshwater marsh can remain viable all year long
- Construction cost + 25% contingency is \$15M \$20M



#### PPL29 PROJECT FACT SHEET February 14, 2019

#### **Project Name**

Davant Marsh Creation (Increment 1)

#### Master Plan Strategy

Pointe a la Hache Marsh Creation (2017 Master Plan 001.MC.102): Creation of approximately 19,100 acres of marsh on the east bank of Plaquemines Parish near Pointe a la Hache to create new wetland habitat and restore degraded marsh.

#### **Project Location**

Region 2, Breton Sound Basin, Plaquemines Parish

#### Problem

The project area is an open water body immediately adjacent to the east bank of the Mississippi River levee. As a result of leveeing the Mississippi River for navigation and flood control, the Pointe a la Hache wetlands were cut off from the historic overbank flooding of the river. Without continued sediment input, marshes could not maintain viable elevations due to ongoing subsidence. In addition, oil and gas canals disrupted hydrology and facilitated saltwater intrusion further degrading the marsh. The land loss rate for the area is -1.00% per year.

#### **Proposed Solution**

The proposed project would create/nourish approximately 284 acres of marsh using sediment dredged from the Mississippi River. The dredged material would be fully contained. Containment dikes would be degraded as necessary to reestablish hydrologic connectivity with adjacent wetlands. The created marsh would be planted.

#### **Project Benefits**

Create/nourish approximately 284 acres (create 222 acres and nourish 62 acres) of emergent marsh using sediment dredged from the Mississippi River.

#### **Project Costs**

The estimated construction cost including 25% contingency is \$20M - \$25M.

#### Preparer(s) of Fact Sheet:

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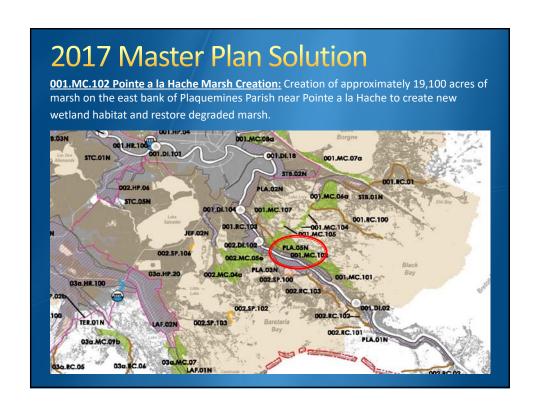










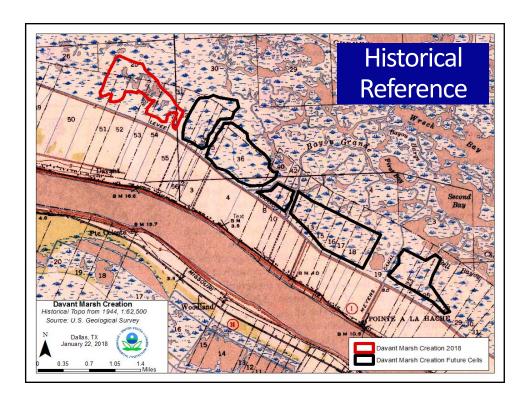


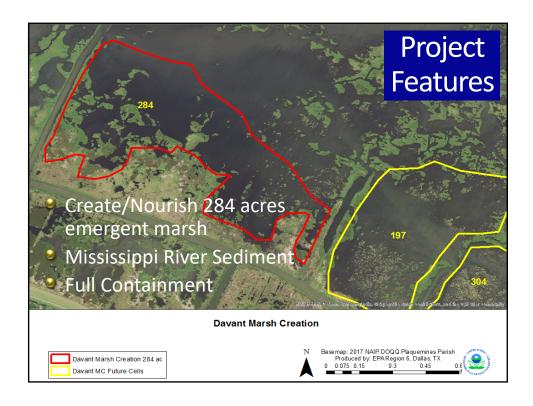




# **Problems**

- Levees for navigation and flood control cut off wetlands from overbank flooding
- Marsh areas could not maintain viable elevations without sediment input
- Subsidence
- Oil & gas canals disrupted hydrology
- Saltwater intrusion
- Plaquemines Parish could lose an additional 55% of its land area over the next 50 years and face severe storm surge flood risk (2017 MP).





# Potential Species & Habitats Protected or Restored T & E Species Migratory Birds Piping Plover Red Knot Sea Turtles Sturgeon Black Skimmer (Breeding) Manatee Migratory Birds American Golden-plover Am Oystercatcher (Breeding) Black Skimmer (Breeding) Many shorebirds

# **Project Goals**

- Create/nourish 284 acres (create 222 acres and nourish 62 acres) of emergent marsh with sediment from the Mississippi River
- Address Plaquemines Parish Phase 1 (construct wetlands adjacent to levees protecting fastlands) and Phase 2 (enhance wetlands in identified areas) priorities
- Restore wetland habitat & provide increased protection from storm surge and flooding
- Construction cost + 25% contingency is \$20M \$25M

BS-09

#### PPL 29 PROJECT FACT SHEET 14 February 2019

#### **Project Name**

Wills Point South Marsh Restoration

#### 2017 Master Plan Strategy

001.MC.107 Tiger Ridge/ Maple Knoll Marsh Creation: Creation of approximately 4,700 acres of marsh in Plaquemines Parish near Tiger Ridge to create new wetland habitat and restore degraded marsh.

#### **Project Location**

Region 2, Breton Sound Basin, Plaquemines Parish

#### Problem

The project area is mostly shallow water that appeared when marsh was lost between 1958 and 1974. Hurricane Katrina further exacerbated the deterioration of interior wetlands, and accelerated losses of critical habitat. The area lies amongst the natural ridges of River aux Chenes and Tiger Ridge. Losses over time have increased the vulnerability to wave fetch and tidal exchange. Furthermore another major hurricane could be devastating to the stability of the marshes in this area.

#### **Proposed Project Features**

Approximately 3.1 million CY of material would be mined from the Mississippi River from the point bar at Wills Point. It would be used to restore 576 acres of marsh adjacent to the River aux Chenes and Tiger Ridge Area. Containment dikes would be constructed around entire perimeter, however existing spoil banks and ridges will be considered as well for containment of river material.

#### **Project Benefits**

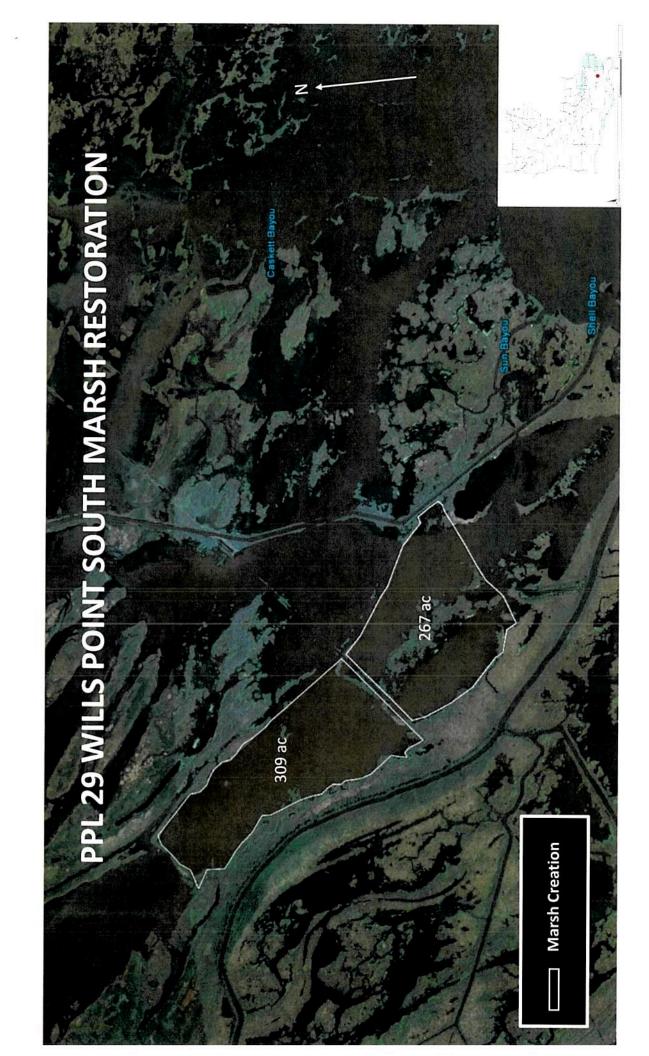
468 acres of open water would be filled with sediment dredged from the Mississippi River, and 108 acres of degraded marsh would be nourished. Project also protects natural ridges of River aux Chenes and Tiger Ridge, as well as adjacent levees which are critical to neighboring communities of Bertrandville and Wills Point.

#### **Preliminary Construction Costs**

The estimated construction cost including 25% contingency is \$30M - \$35M

#### **Preparers of Fact Sheet**

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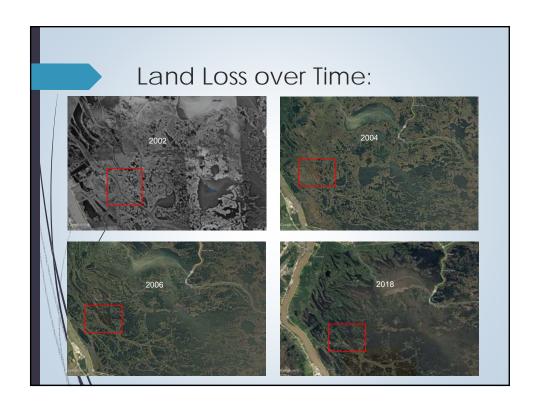


# Wills Point South Marsh Restoration PPL 29 Region 2 Breton Sound Basin

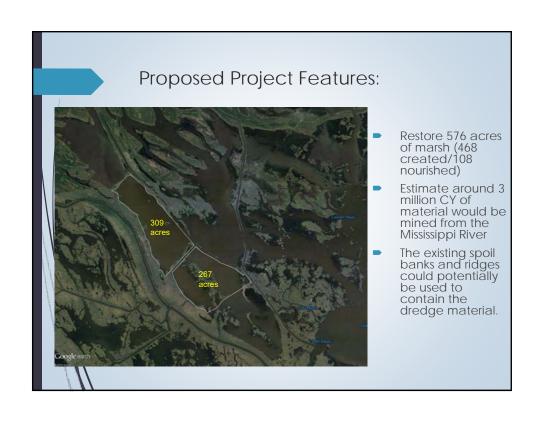


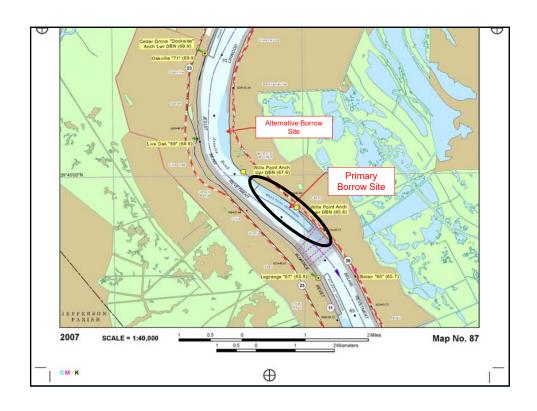
### Problem:

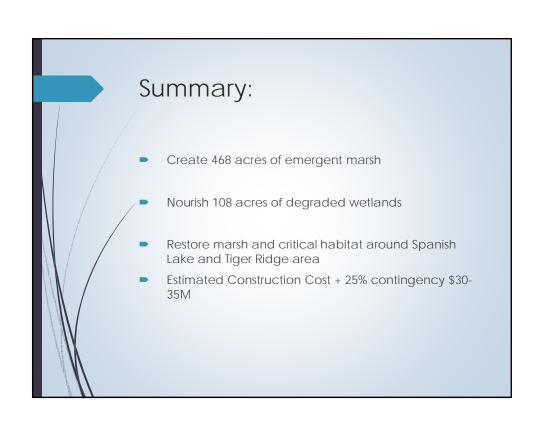
- The project area is mostly shallow open water that began to appear when marsh was lost between 1958 and 1974, due to subsidence, salinity spikes and tropical events.
- However the major losses incurred in this area were a result of Hurricane Katrina in 2005, and have experienced steady deterioration since.











#### PPL29 PROJECT NOMINEE FACT SHEET February 14, 2019

#### **Project Name**

Phoenix Marsh Creation - East Increment

#### **Project Location**

Region 2, Breton Sound Basin, Plaquemines Parish, East of Phoenix, LA

#### Problem

Within the project vicinity, marsh loss has occurred with the construction of oil/gas canals, subsidence, and sediment deprivation. Based on USGS' hyper-temporal analysis (1985-2016) for the Schayots Canal mapping unit, the loss rate for this area is estimated to be -1.00% per year.

#### Goals

The primary goals of this project are; 1) restore marsh habitat in the open water areas via marsh creation and 2) provide a linkage with projects to the east to continue the Breton Landbridge westward. The specific goal of this project is to create 350 acres of marsh and nourish 135 acres of marsh with dredged material from the Mississippi River.

Service goals include restoration/protection of habitat for threatened and endangered species and other at-risk species. This project would restore habitat potentially utilized by the black rail, which is proposed for listing as a threatened species. The project could also benefit other species of concern including the peregrine falcon, osprey, mottled duck, saltmarsh topminnow, and seaside sparrow.

#### **Proposed Solution**

Riverine sediments will be hydraulically dredged and pumped via pipeline to create 350 acres of marsh and nourish 135 acres of marsh.

#### **Preliminary Project Benefits**

- 1) What is the total acreage benefited both directly and indirectly? Approximately 485 acres would be benefited directly. Direct benefits include 350 acres of marsh creation and 135 acres of marsh nourishment. Indirect benefits would occur to surrounding marshes.
- 2) How many acres of wetlands will be protected/created over the project life? The total net acres protected/created over the project life is approximately 300-350 acres.
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%). The anticipated loss rate reduction throughout the area of direct benefit is estimated to be 50%.
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc. No.

- 5) What is the net impact of the project on critical and non-critical infrastructure? The project would result in no impacts to infrastructure.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? The project would be synergistic to the Breton Landbridge Marsh Creation (West) Project located to the east.

#### **Identification of Potential Issues**

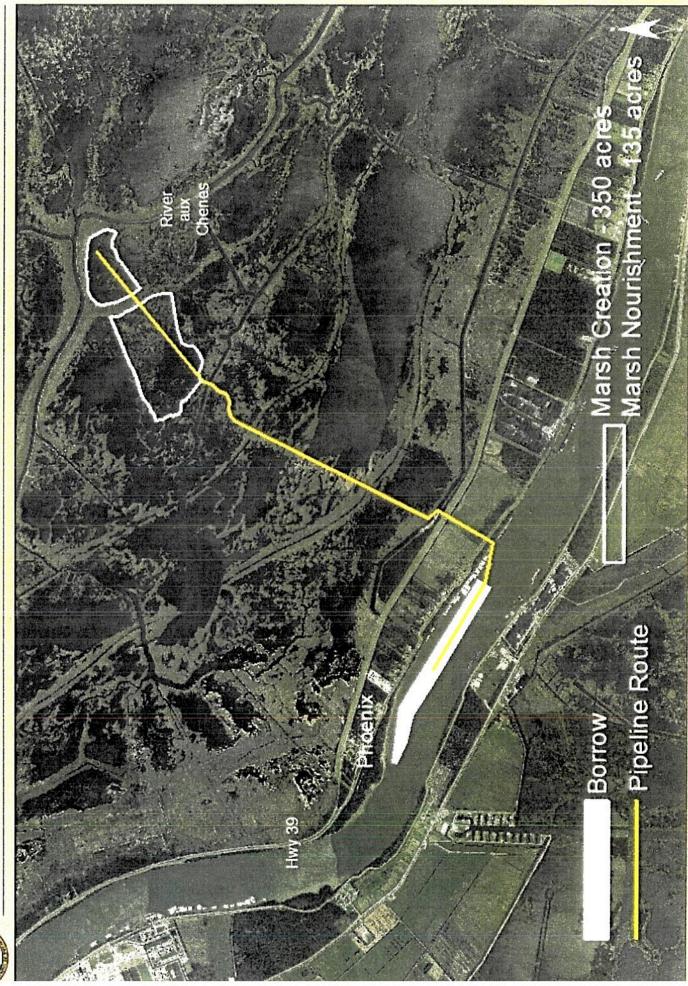
None identified at this time.

#### **Preliminary Construction Costs**

The estimated construction cost including 25% contingency is \$25M - \$30M.

#### **Preparer of Fact Sheet**

Kevin Roy, USFWS, (337) 291-3120, kevin roy@fws.gov





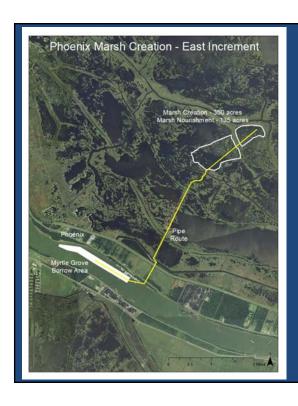












# Phoenix Marsh Creation – East Increment

350 acres of marsh creation

135 acres of marsh nourishment

Mississippi River borrow site

Net acres = 300 - 350

Construction plus contingency \$25M - \$30M

Project synergy – Breton Landbridge Marsh Creation (West)

# Region 2-Barataria Basin

# Region 2 – Barataria Basin

BA-01	North Fourchon Marsh Creation
BA-02	Three Bayou Bay Marsh Creation
BA-03	East Bayou Lafourche Marsh Creation
BA-04	Northeast Turtle Bay Marsh Creation Extension
BA-05	Bayou eau Noire Ridge Restoration and Marsh Creation
BA-06	Fifi Island Marsh Creation
BA-07	Old Highway 1 Marsh Creation and Terraces ** withdrawn **

# PPL29 PROJECT FACT SHEET February 14, 2019

# **Project Name**

North Fourchon Marsh Creation Project

# Master Plan Strategy

Belle Pass-Golden Meadow Marsh Creation (2017 Master Plan 03a.MC.07): Creation of approximately 24,800 acres of marsh from Belle Pass to Golden Meadow to create new wetland habitat and restore degraded marsh.

# **Project Location**

Region 2, Terrebonne Basin, Lafourche Parish

### Problem

Historic wetland loss in the project area stems from subsidence, sediment deprivation, and construction of pipeline canals. According to USGS data, nearly 324,000 ac of land were lost between 1932 and 2010 within the basin, which had the highest land loss rate in the state from 1985 to 2004. Wetlands have been replaced by open water where canals are dug, while spoil banks convert them to upland habitat. Bounded by Bayou Lafourche to the east and Timbalier Bay to the west the project area is also subject to shoreline erosion. Land loss rate is estimated at -1.56%

# Proposed Solution

This project would create marsh habitat and increase the longevity of existing marsh habitat and provide protection to surrounding wetlands, Bayou Lafourche, and the community and infrastructure of Port Fourchon. Sediment for marsh creation would be mined in Timbalier Bay or Little Lake, hydraulically dredged and pumped to the marsh creation and nourishment cells.

# **Project Goals**

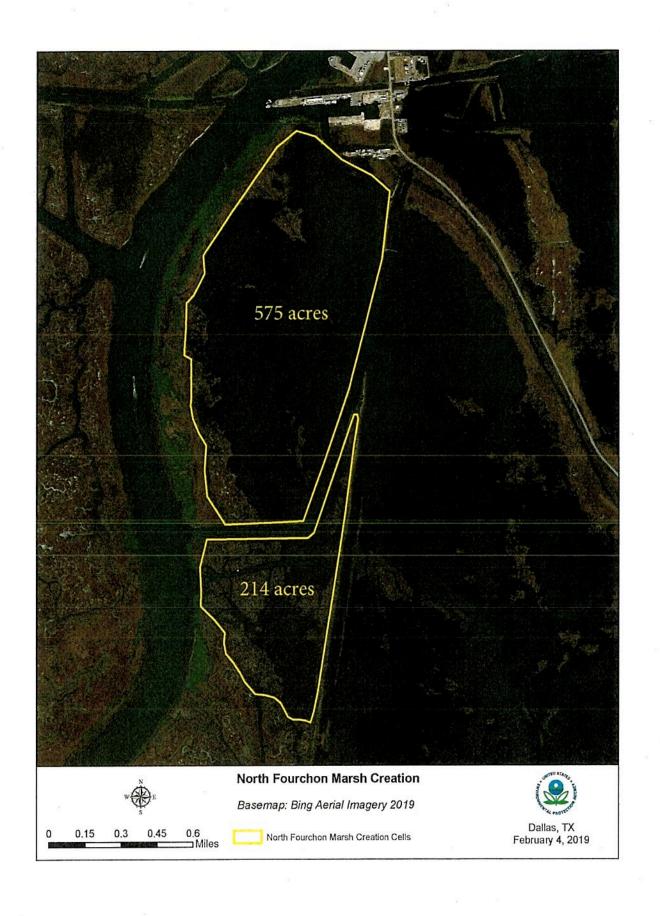
Create/nourish approximately 575 ac of marsh using sediment dredged from Timbalier Bay or Little Lake.

# **Project Costs**

The estimated construction cost including 25% contingency is \$25M - \$30M.

# Preparer(s) of Fact Sheet:

Adrian Chavarria, EPA; (214) 665-3103; chavarria.adrian@epa.gov Sharon L. Osowski, Ph.D; EPA; (214) 665-7506; osowski.sharon@epa.gov

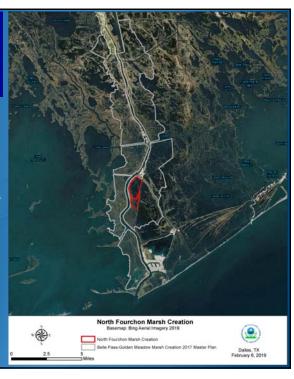






# 2017 Master Plan Consistency & Project Synergy

- 03a.MC.07 Belle Pass-Golden Meadow Marsh Creation
- Synergistic with TE-134 & BA-194
- Timbalier Bay or Little Lake for borrow source





# **Problems**

- This area has experienced wetland loss due to:
  - Subsidence
  - Sediment deprivation
  - Erosion
  - Construction of pipeline canals
- The area had the highest land loss rate in the state from 1985-2004 (USGS)
- LaFourche Parish could be at risk for increased storm surge and flooding in the next 50 years (2017 MP).

# Historical Reference

- Historical topo from 1951
- Mostly solid marsh



# Project Features

- North cell: 575 acres (Option A-preferred)
- Southern cell: 214 acres (Option B)



# **Project Goals**

- Option A: create/nourish 575 acres emergent marsh with sediment from Timbalier Bay or Little Lake to increase the longevity of existing marsh habitat
- Provide protection for the community and infrastructure of the Port Fourchon area
- Construction plus 25% contingency = \$25M-30M

# PPL29 PROJECT FACT SHEET February 14, 2019

# **Project Name**

Three Bayou Bay Marsh Creation

# Master Plan Strategy

Lower Barataria Marsh Creation-Component A (2017 Master Plan 002.MC.04a): Creation of approximately 7,400 acres of marsh in Jefferson Parish on the east shore of Little Lake and Turtle Bay to create new wetland habitat and restore degraded marsh.

# **Project Location**

Region 2, Barataria Basin, Jefferson Parish

# Problem

The project area is a semi-open water body near Three Bayou Bay. Wetland loss has occurred in the project area and are not able to maintain viable elevations due to ongoing subsidence. In addition, oil and gas canals disrupted hydrology and facilitated saltwater intrusion further degrading the marsh.

# **Proposed Solution**

The proposed project would create/nourish approximately 638 acres of marsh using sediment dredged from the Little Lake. The dredged material would be fully contained. Containment dikes would be degraded as necessary to reestablish hydrologic connectivity with adjacent wetlands. The created marsh would be planted.

# **Project Benefits**

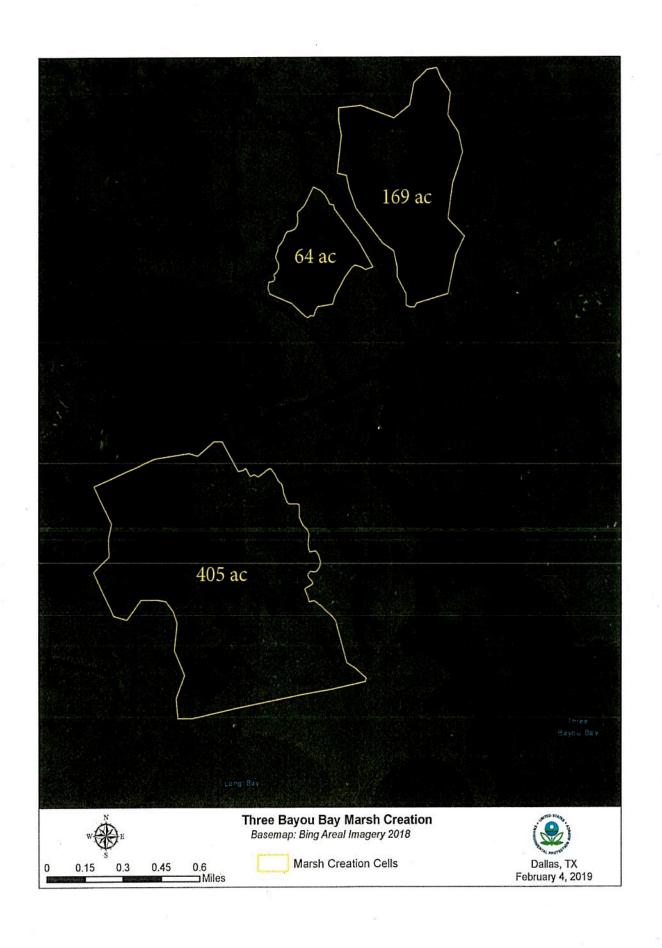
Create/nourish approximately 638 acres of marsh using sediment dredged from the Little Lake.

# **Project Costs**

The estimated construction cost including 25% contingency is \$25M - \$30M.

# Preparer(s) of Fact Sheet:

Adrian Chavarria; EPA; (214) 665-3103; chavarria.adrian@epa.gov Sharon L. Osowski, Ph.D.; EPA; (214) 665-7506; osowski.sharon@epa.gov











# **Problems**

- Subsidence
- Oil & gas canals disrupted hydrology
- Saltwater intrusion
- Decreased sediment input
- Jefferson Parish could lose an additional 42% of its land area over the next 50 years and face severe storm surge flood risk (2017 MP).

# Potential Species & Habitats Protected or Restored

# T & E Species

- Piping Plover
- Red Knot
- Sea Turtles
- Sturgeon
- Manatee

# Historical Reference

- Historical topo from 1944
- Predominantly solid marsh



# Project Features

- 3 marsh creation cells
- 638 acres MC/MN
- Containment



# **Project Goals**

- Create/nourish 638 acres of emergent marsh with sediment from the Little Lake
- Restore degraded wetland habitat
- Provide increased protection from storm surge and flooding
- Construction plus 25% contingency = \$25M-30M

# PPL29 PROJECT NOMINEE FACT SHEET February 14, 2019

# **Project Name**

East Bayou Lafourche Marsh Creation

# **Project Location**

Region 2, Barataria Basin, Lafourche Parish, south of Golden Meadow adjacent to Bayou Lafourche

### Problem

The Leeville area has experienced extensive loss of emergent wetlands from subsidence, storms, canal dredging, and altered hydrology. Wetland loss has increased the vulnerability of Leeville and Louisiana Highway 1 to damage from tropical storms. Based on the hyper-temporal analysis conducted by USGS for the PPL26 candidate, the project area loss rate is estimated to be -1.42% per year for the period 1984 to 2016.

#### Goals

The primary goal of this project is to restore marsh along the Highway 1-Bayou Lafourche corridor via marsh creation. The specific goal of the project is to create approximately 417 acres (369 acres of marsh creation and 48 acres of marsh nourishment) of marsh with dredged material.

Service goals include restoration/protection of habitat for threatened and endangered species and other at-risk species. This project would restore habitat potentially utilized by the black rail (proposed to be listed as a threatened species) and the saltmarsh topminnow.

# **Proposed Solution**

Sediments from a Little Lake/Caminada Bay borrow site will be hydraulically dredged and pumped via pipeline to create/nourish approximately 417 acres of marsh. Dewatering and compaction of dredged sediments should produce elevations conducive to the establishment of emergent marsh and within the intertidal range. Perimeter containment dikes will be constructed. Containment dikes exposed to open water will be planted with appropriate vegetation. Containment dikes will be gapped at the end of construction or by target year 3.

# **Preliminary Project Benefits**

- What is the total acreage benefited both directly and indirectly?
   Approximately 417 acres would be benefited directly. Direct benefits include 369 acres of marsh creation and 48 acres of marsh nourishment. Indirect benefits would occur to marsh surrounding the project area.
- 2) How many acres of wetlands will be protected/created over the project life? The total net acres protected/created over the project life is 300-350 acres.
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?

The anticipated loss rate reduction throughout the area of direct benefit is estimated to be 50%.

- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc? The project would restore marsh along what remains of the historical natural levee ridge along Bayou Lafourche.
- 5) What is the net impact of the project on critical and non-critical infrastructure? Some protection could be afforded to Highway 1, which is not elevated along this reach.
- 6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?
  The project is complementary to the BA-194 East Leeville Marsh Creation Project. Both projects would restore marsh along the Bayou Lafourche/Hwy 1 corridor.

# **Considerations**

Oil and gas infrastructure (i.e., pipelines) and oyster leases would have to be considered in the project design.

# **Preliminary Cost**

The estimated construction cost plus 25% contingency is \$30M - \$35M.

# Preparer of Fact Sheet

Kevin Roy, USFWS, (337) 291-3120, kevin roy@fws.gov

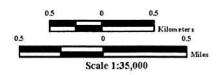


# East Bayou Lafourche Marsh Creation (PPL29 Nominee)



Marsh Creation \*
Project Boundary

\* denotes proposed features





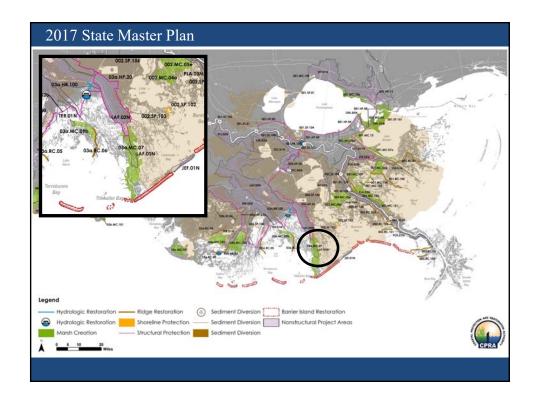


U.S. Department of the Interior
U.S. Geological Survey
Wetland and Aquatic Research Center
Coastal Restoration Assessment Branch
Baton Rouge, La

Image Source: 2016 DOQQ

Map ID: Map Date: February 06, 2019









BA-03

# PPL29 PROJECT NOMINEE FACT SHEET February 14, 2019

# **Project Name**

Northeast Turtle Bay Marsh Creation Extension

# **Project Location**

Region 2, Barataria Basin, Jefferson Parish, northeast of Turtle Bay

# Problem

Historic wetland loss in the area has been caused by subsidence, sediment deprivation, and construction of access and pipeline canals. Based on analysis conducted by USGS, loss rates in the area of the nearby PPL27 NE Turtle Bay Project were estimated to be -0.97% per year for the period 1985 to 2016.

# **Proposed Solution**

The proposed project would create approximately 510 acres and nourish approximately 100 acres of marsh using sediment dredged from Turtle Bay. At this time, it is expected that area will be fully contained. Containment dikes will be degraded as necessary to reestablish hydrologic connectivity with adjacent wetlands. In case the area does not re-vegetate on its own, the maintenance cost estimate includes funds to plant 25% of the created marsh at Year 3.

### Goals

The goal of the project is to create approximately 510 acres of marsh and nourish approximately 100 acres of marsh (610 acres total) with dredged material from Turtle Bay.

# **Preliminary Project Benefits**

- What is the total acreage benefited both directly and indirectly?
   610 directly benefitted; indirect benefit not yet determined.
- How many acres of wetlands will be protected/created over the project life?
   TBD
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74%, and >75%)?
  The anticipated land loss rate reduction throughout the area of direct benefits is approximately 50% over the project life.
- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc? This project would contribute to protection of the Central Barataria Basin Landbridge.
- 5) What is the net impact of the project on critical and non-critical infrastructure?

  The communities of Lafitte and Barataria lie to the north of this important landmass which serves to buffer the effect of tropical weather events. Numerous pipelines would benefit from reducing land loss in the area.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?
This project would work in sync with BA-2, BA-27, BA-20, BA-23, BA-03a, BA-26, BA-36 (and associated CIAP project), BA-125, BA-206, and BA-41, contributing to protection of the Central Barataria Basin Landbridge.

# Considerations

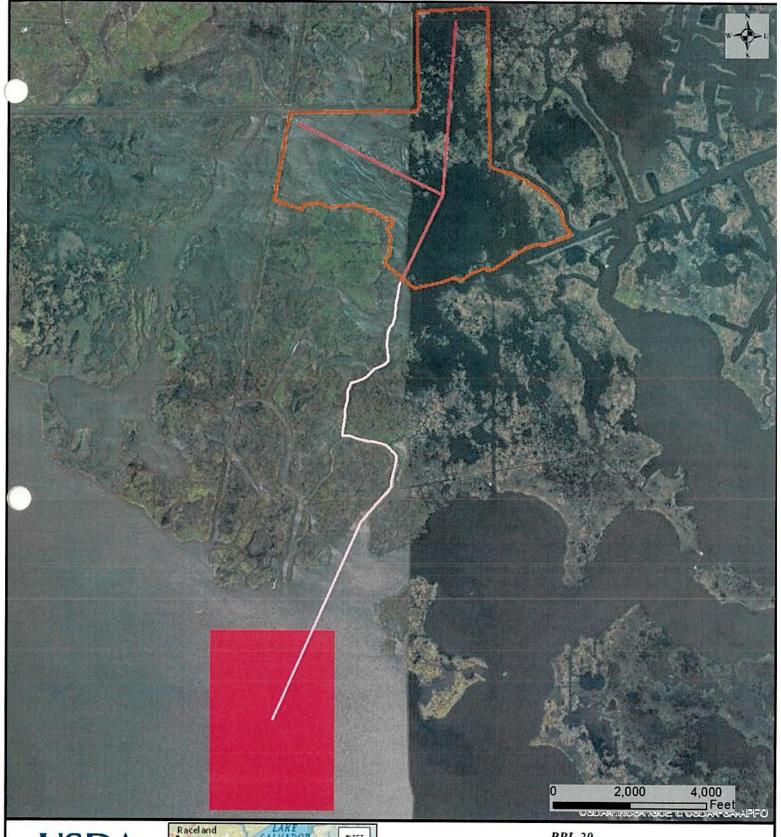
There are active pipelines running near and through the project area. Turtle bay is part of an oyster seed ground. No other issues known at this time.

# **Preliminary Construction Cost**

The estimated construction cost including 25% contingency is \$25M - \$30M.

Preparer(s) of Fact Sheet:

Quin Kinler, USDA-NRCS, 225-271-2403, quin.kinler@la.usda.gov





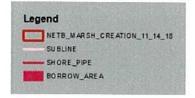
Map Produced By: United States Department of Agriculture Natural Resources Conservation Service Alexandria, LA

Data Source: NAIP 2017

Map Date: JANUARY 8, 2019



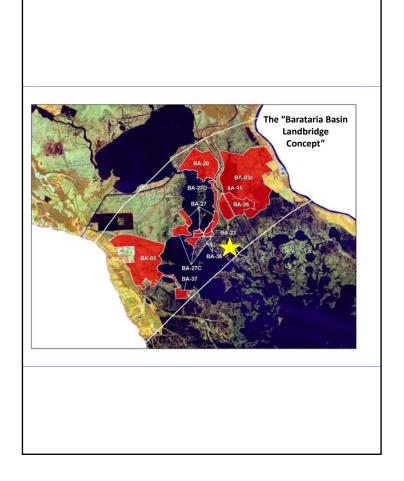
PPL 29 NORTH EAST TURTLE BAY MARSH CREATION EXTENSION JEFFERSON PARISH, LA

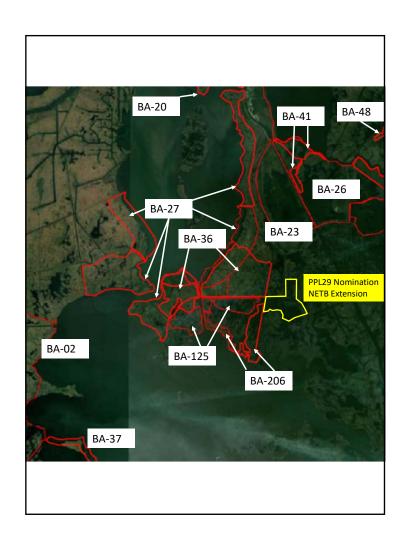


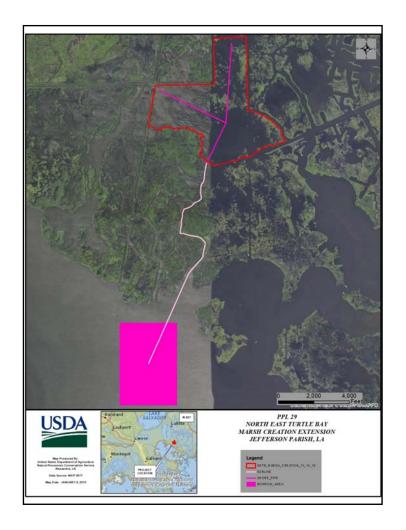
PPL 29 Regional Planning Meeting February 14, 2019

> Region 2 Barataria Basin

Northeast Turtle Bay Extension Marsh Creation







# **BBWW East MC**

- 510 acres of marsh creation
- 100 acres of marsh nourishment
- Synergistic with many other projects (BA-2, BA-27, BA-20, BA-23, BA-03c, BA-26, BA-36, BA-125, BA-206, and BA-41, contributing to protection of the Central Barataria Basin Landbridge.
- Preliminary Construction Cost \$25M - \$30M including 25% contingency

# PPL29 PROJECT FACT SHEET February 14, 2019

# **Project Name**

Bayou eau Noire Ridge Restoration and Marsh Creation

# Master Plan Strategy

Bayou Eau Noire Ridge Restoration (2017 Master Plan 002.RC.102): Restoration of approximately 34,800 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou Eau Noire.

# **Project Location**

Region 2, Barataria Basin, Plaquemines Parish

#### Problem

The project area is a broken marsh area immediately adjacent to the west bank of the Mississippi River levee just east of Bay de la Chenier. The historic ridge has degraded over time and marshes have become fragmented and converted to open water due to ongoing subsidence and storm events. In addition, oil and gas canals disrupted hydrology and further degraded the marsh. The land loss rate for the area is -0.95% per year.

# **Proposed Solution**

The proposed project would restore approximately 25,862 linear feet of historic ridge and create/nourish approximately 428 acres of marsh using sediment dredged from the Mississippi River as additional support for the ridge feature.

# **Project Benefits**

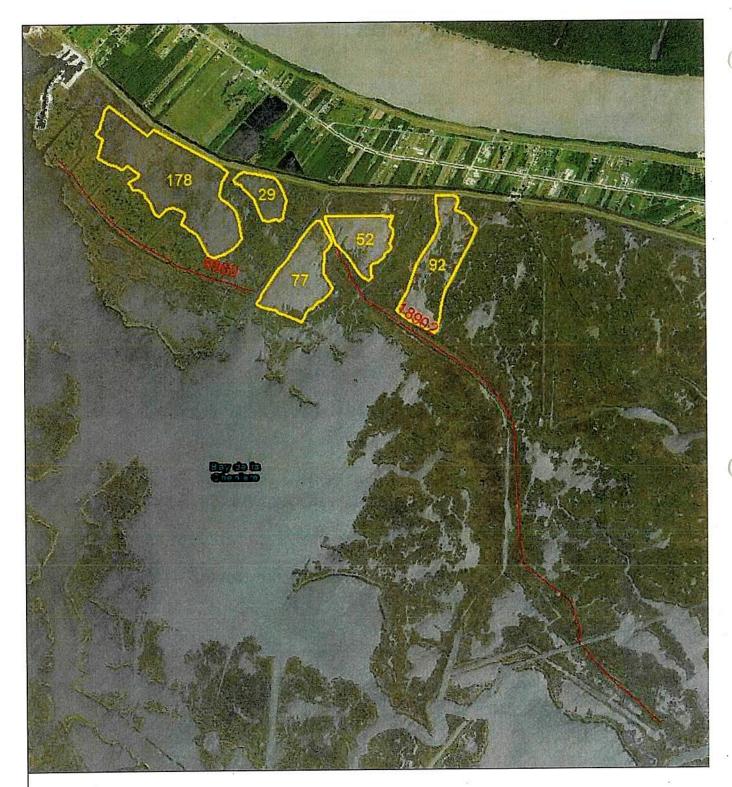
Restore 25,862 linear feet of historic ridge and create/nourish approximately 428 acres (create 240 acres and nourish 188 acres) of marsh.

# **Project Costs**

The estimated construction cost including 25% contingency is \$25M - \$30M.

# Preparer(s) of Fact Sheet:

Brad Crawford, P. E., EPA; (214) 665-7255; crawford.brad@epa.gov Sharon L. Osowski, Ph.D.; EPA; (214) 665-7506; osowski.sharon@epa.gov

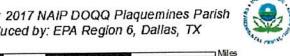


Bayou eau Noire Ridge Restoration & Marsh Creation





Basemap: 2017 NAIP DOQQ Plaquemines Parish Produced by: EPA Region 6, Dallas, TX







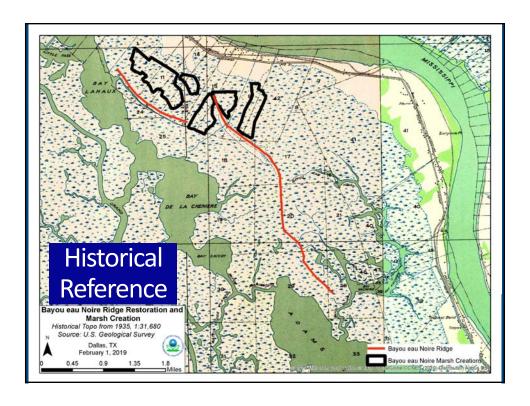






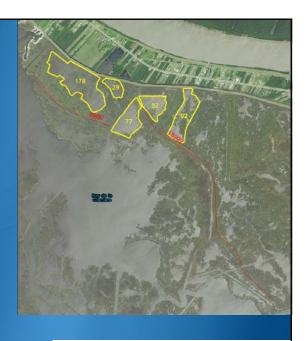
# **Problems**

- Historic ridge feature has degraded over time
- Marsh has degraded and converted to open water over time due to multiple stressors
- Subsidence & storm events
- Plaquemines Parish could lose an additional 55% of its land area over the next 50 years & faces extensive wetland loss & severe storm surge flood risk (2017 MP).



# Project Features

- Restore 25,862 linear feet of historic ridge
- Create/nourish428 acres Marsh
- Sediment from MS River
- Full Containment







# Potential Species & Habitats Protected or Restored

# T & E Species

- Piping Plover
- Red Knot
- Sea Turtles
- Sturgeon
- Manatee

# **Migratory Birds**

- American Golden-plover
- Am Oystercatcher (Breeding)
- Black Skimmer (Breeding)
- Many shorebirds

# **Project Goals**

- Restore 25,862 linear feet of historic ridge
- Create/nourish 428 acres (create 240 acres and nourish 188 acres) of emergent marsh with sediment from the Mississippi River as additional support for the ridge feature
- Address Plaquemines Parish Phase 1 (construct wetlands adjacent to levees protecting fastlands) and Phase 2 (enhance wetlands in identified areas) priorities
- Restore wetland habitat & provide increased protection from storm surge and flooding
- Construction cost + 25% contingency is \$25M \$30M

# PPL29 Fifi Island Marsh Creation

# **Project Name:**

Fifi Island Marsh Creation

# **Project Location:**

Region 2, Barataria Basin, Jefferson Parish

# Problem:

Historic wetland loss on Fifi Island from bayside shoreline deterioration due to erosion caused by waves during storm surge and tides in the Caminada Bay. Additional factors contributing to the loss of marsh include subsidence, sea level rise, and sediment deprivation.

# **Proposed Solution:**

This project would create 187 acres of emergent marsh using sediment from the dredging of either Bayou Rigaud, Barataria Bay Waterway Bay Bar Channel, or Caminada Bay. Sediment will be placed behind approximately 6,700 linear feet of rock dike as the front containment, while using as much of the existing spoil banks and healthy marsh as containment elsewhere. In areas where use of the existing marsh is not possible, other tactics may be employed, such as the use of hay bales or sheetpile. Vegetative planting will occur on a portion of the project area.

#### Goals:

The goal of the project is to create 187 acres of marsh using sediment from one of the proposed borrow sites. The marsh will function as a barrier and help in reducing the impacts on Grand Isle, which is Louisiana's only inhabited and accessible barrier island. Previous projects have restored portions of the rock dikes around the island, and the Grand Isle Levee District is currently in the process of completing the remaining sections of dike. This project would restore the marsh inside the rock dikes on the western half of Fifi Island, thus enhancing the long term performance of the dikes.

# **Preliminary Project Benefits:**

- 1) What is the total acreage benefited both directly and indirectly?

  Approximately 187 acres would be directly benefitted. Direct benefits include 187 acres of marsh creation/nourishment. Any indirect benefit has not yet been determined.
- 2) How many acres of wetlands will be protected/created over the project life? The total net acres protected/created over the project life have not yet been determined.
- 3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74%, and >75%)?

The anticipated loss rate reduction throughout the area of direct benefits have not yet been determined.

- 4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.? The Fifi Island marsh created in this project will help to maintain Grand Isle, a barrier island.
- 5) What is the net impact of the project on critical and non-critical infrastructure?
  Fifi Island serves as a critical barrier between the Gulf and lower Lafourche and Jefferson
  Parishes. The project helps protect critical infrastructure in the immediate area such as LA 1 and
  non-critical infrastructure within the community of Grand Isle including both residential and
  commercial infrastructure.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?

The project has synergy with the 2017 Louisiana Coastal Master Plan for restoration of barrier islands. This project will have a synergistic effect on the efforts of the Grand Isle Levee District to construct approximately 6,075 linear feet of rock dike to be placed between the existing dikes along the south side of Fifi Island. The project will also have synergistic effects on additional 1,400 linear feet of an existing rock dike that will be refurbished by the Grand Isle Levee District. Approximately \$6,000,000 will be spent to place 101,000 cubic yards of rock to construct the dike. During construction, approximately 92,000 cubic yards of sediment dredged for access will be placed behind the rock dikes to enhance the long-term performance of the dike.

### **Considerations:**

There are pipelines running near and through the project area. No other issues are known at this time.

# **Preliminary Costs:**

\$10-15 Million

# **Preparer of Fact Sheet:**

Lauren Averill, Jefferson Parish, <u>LAverill@jeffparish.net</u>, 504-736-6653 Kevin Roy, US Fish and Wildlife Service <u>kevin\_roy@fws.gov</u>,





# **Problems**

# FIFI ISLAND MARSH CREATION

- Historic wetland loss
- Bayside shoreline deterioration
- Subsidence
- Sea level rise



# **Proposed Solution**

# **FIFI ISLAND MARSH CREATION**

- 187 acres of marsh creation
- \$10-15 Million
- Interior Borrow (Bayou Rigaud, Barataria Bay Waterway, Caminada Bay)
- Existing Shoreline Protection
- Natural containment



# Synergistic effect with other restoration projects Consistent with 2017 Support Barrier Island Louisiana Coastal Master Plan Grande Isle Protect Grand Isle Independent Levee District: Protect Infrastructure • 6,075 linear feet of rock dike (101,000 cubic yards rock) • 1,400 linear feet of rock dike to be refurbished 92,000 cubic yards of sediment to be placed in footprint for access dredging Shoreline Protection to be constructed – Grand Isle Independent Levee District





# PPL29 PROJECT FACT SHEET February 14, 2019

# **Project Name**

Old Highway 1 Marsh Creation and Terraces

# **Project Location**

Region 2, Barataria Basin, Lafourche Parish, south of Leeville and just to the east of Bayou Lafourche

#### Problem

The marshes along Bayou Lafourche have suffered significant loss due to erosion and subsidence. These areas have been somewhat isolated from historical inputs of riverine sediments and more recent anthropogenic activities have resulted in steady degradation of the marshes. USGS estimates land loss in the project region to be -1.56 %/y and the state has estimated regional subsidence at 8.8 mm/y. Restoration measures that have proven to be quite effective involve the borrowing of material from nearby bays to supplement the degraded marshes. This location is important because it provides protection to old HWY 1.

#### Goals

The primary goals of this project are to 1) create/restore marsh habitat in the open water areas via marsh creation and marsh nourishment and 2) create terraces to create habitat and reduce fetch and wave energy in open water areas.

### **Proposed Solution**

- 1. Sediments will be hydraulically dredged and pumped via pipeline from a borrow site located in Little Lake to create/nourish approximately 401 acres of marsh
- 2. Approximately 13,300 linear feet (15 acres) of terraces will be constructed. These terraces will be strategically placed to both create marsh where needed and reduce fetch in the open water areas to protect the marsh creation areas.
- 3. Containment dikes will be gapped, and the terraces will be planted.

# **Preliminary Project Benefits**

Preliminary benefits will include about 416 acres of marsh creation/nourishment and terraces.

### **Preliminary Cost**

The estimated construction cost including 25% contingency is \$15-\$20M.

# Preparer of Fact Sheet

Ron Boustany, NRCS, (337) 291-3067, ron.boustany@la.usda.gov









# PPL-29

# Old HWY 1 Marsh Creation and Terraces

# **Project Objectives:**

- Create/restore marsh habitat via marsh creation and nourishment
- Create marsh as well as reduce fetch wave energy via construction of terraces

# **Project Features and Benefits:**

- Create/nourish approximately 401 acres of marsh
- Create approximately 13,300 lf of terraces (12 acres)

# **Project Costs:**

• \$15-20 million